ADOLESCENTS WITH CONDUCT DISORDER: AN INVESTIGATION INTO THE RELATIONSHIP BETWEEN COGNITIVE STYLE AND CO-MORBID MENTAL HEALTH PROBLEMS

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Declaration

"This thesis has been composed by myself and the work contained herein is my own"

Signed.... ....Natalie Gornell

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Abstract

Adolescents with conduct disorder: An investigation into the relationship between cognitive style and co-morbid mental health problems

Objectives. This thesis describes a study whose objectives were to establish the prevalence and co-morbidity rates of psychological problems in a population of adolescents with conduct disorder. In addition, it aimed to assess the number and type of cognitive errors made by these young people, and to examine the relationship between psychological disorders and cognitive errors.

Design and Methods. All pupils in a residential school for children with conduct problems were invited to complete the Strengths and Difficulties screening Questionnaire. Those who completed the questionnaire were invited to attend an interview to complete the Development and Well-being Assessment structured diagnostic interview and the Children's Negative Cognitive Errors Questionnaire. The responses were analysed using correlations and a one-way ANOVA.

Results. It was hypothesised that the presence of internalising psychological problems would correlate significantly with number of cognitive errors and that certain disorders would correlate significantly with specific cognitive errors. However, all of the hypotheses were rejected.

Conclusion. Scores on the screening questionnaire and diagnoses from the structured interview do not correlate with the total number or type of cognitive errors reported by this sample of young people using the CNCEQ.

1. INTRODUCTION

1.1 PREFACE

The introductory chapter of this thesis evaluates a number of important issues relating to conduct disorder (CD). Consequently, this chapter will be separated into five sections, each relating to a particular aspect of the disorder.

These are:

- diagnostic criteria of conduct disorder
- theories and models of the development of conduct disorder
- expected outcomes for conduct disorder
- the prevalence and co-morbidity of psychological problems in adolescence
- cognitive behaviour therapy of mental health problems

There are a variety of definitions of CD in the literature, however, for brevity, just one will be outlined below. This definition reflects current Diagnostic and Statistical Manual – fourth edition (DSM- IV) criteria for CD (See Figure 1).

"...the main behavioural feature of CD is a pervasive and persistent pattern of anti-social behaviour which extends beyond the family to the school and the community; involves serious violations of rules; and is characterised by defiance of authority, aggression, destructiveness, deceitfulness and cruelty." (Brosnan & Carr, 2000).

1.2 DIAGNOSTIC CRITERIA FOR CONDUCT DISORDER

This section describes current diagnostic criteria and discusses changes in the criteria for CD over recent years. Some current debates relating to classification are also highlighted.

The current research criteria for CD, DSM-IV, separates features into key clusters of symptoms. These are: aggression to people and animals; destruction of property; serious violations of rules and deceitfulness or theft. To meet DSM-IV diagnostic criteria, at least three features must have been present for at least 12 months and an additional feature for the last six months. Also, the disturbance in behaviour must cause clinically significant impairment in social, academic or occupational functioning.

The diagnostic criteria has been criticised in the literature. For instance, why select three features as a cut-off rather than two, when carers report significant impairment in a child with just one feature (Kazdin, 1993). Similarly, why symptoms need to be present for 12 months rather than some other time constraint is also unclear. These are important issues because receiving a diagnosis of CD can have a significant impact on young people. In addition, diagnostic criteria influences subject selection and therefore inherently influences research findings that later inform treatment.

DSM-IV Criteria for Conduct Disorder

A. A repetitive and persistent pattern of behaviour in which the basic rights of others or major age-appropriate societal norms or rules are violated, as manifested by the presence of three (or more) of the following criteria in the past 12 months, with at least one criterion present in the past 6 months:

Aggression to people and animals

1) often, bullies, threatens or intimidates others
2) often initiates physical fights
3) has used a weapon that can cause serious physical harm to others (e.g., a bat, brick, broken bottle, knife, gun)
4) has been physically cruel to other people
5) has been physically cruel to animals
6) has stolen while confronting a victim (e.g., a mugging, purse snatching, extortion, armed robbery)
7) has forced someone into sexual activity

Destruction of property

8) has deliberately engaged in fire setting with the intention of causing serious damage
9) has deliberately destroyed others' property (other than by fire setting)

Deceitfulness or theft

10) has broken into someone else's house, building or car
11) often lies to obtain goods or favours or to avoid obligations (i.e., "cons" others
12) has stolen items of non-trivial value without confronting a victim (e.g., shoplifting but without breaking and entering; forgery)

Serious violations of rules

13) often stays out at night despite parental prohibitions, beginning before age 13 years
14) has run away from home overnight at least twice while living in parental or parental surrogate home (or once without returning for a lengthy period)
15) is often truant from school, beginning before age 13 years

B. The disturbance in behaviour causes clinically significant impairment in social, academic or occupational functioning.

If the individual is age 18 years or older, criteria are not met for Antisocial Personality Disorder.

Specify type based on age of onset:

Childhood-onset type: onset of at least one criterion characteristic of conduct disorder prior to age 10 years

Adolescent-onset type: absence of any criteria characteristic of conduct disorder prior to age 10 years

Specify severity:

Mild: few if any conduct problems in excess of those required to make the diagnosis **and** conduct problems cause only minor harm to others

Moderate: number of conduct problems and effect on others intermediate between "mild" and "severe"

Severe: many conduct problems in excess of those required to make the diagnosis **or** conduct problems cause considerable harm to others

Figure 1 Diagnostic criteria for conduct disorder

Another problem is that the diagnostic criteria for CD and oppositional defiant disorder (ODD) changed markedly from DSM-IIIR introduced in 1987 and to DSM-IV brought out in 1994. This may reflect increased knowledge of the area and changing societal norms but it makes it difficult to compare groups of children across time.

Both DSM-III and DSM-IV sub-classified CD according to findings relating to groupings of symptoms in the current literature. DSM-III divided CD into socialized and non-socialized forms of aggression whereas the DSM-IV differentiated between early and late onset and in terms of severity of symptomatology. Onset is categorised as either childhood (under the age of ten) or adolescent. This is important because males who meet the criteria for early onset CD are 8.7 times more likely to show at least one symptom from the aggressive cluster than are youths who qualify for CD at a later age (Loeber, Green, Lahey, & Kalb, 2000). Severity of CD can be classified as mild, moderate or severe in DSM-IV, but this distinction has rarely been utilised in the research literature on this topic. Rather, the severity of individual items from DSM-IV has been the focus of research (Loeber, Burke, Lahey, & Zera, 2000).

As young people with CD do not form an homogenous group in terms of symptoms, some researchers have suggested that it would be more meaningful to sub-group those with CD into categories according to the behaviours they display. For example, Fergusson, Horwood & Lynskey (1993) argued that children with CD could be divided into sub-types based on whether they demonstrate the aggressive or the delinquent symptoms listed in DSM-IV. The aggressive sub-type could be described as overt CD as it is characterised by obvious behaviour such as fighting. The delinquent sub-type could be called covert CD because it is characterised by

concealed acts such as stealing. Statistical analysis of groupings of behaviour has produced evidence that supports this hypothesis (Loeber, Lahey and Thomas, 1991). Other researchers have distinguished between reactive and proactive aggressive behaviour in children with CD (Dodge, 1993). Aggressively reactive children respond to provocation and perceive others as having hostile intentions towards them, whereas proactively aggressive children use aggression to obtain desired goals through strategies such as intimidation.

Other theorists refute the suggestion that the diagnostic criteria for CD should have sub-categories. Instead, the varying manifestations could simply be explained by considering CD as a disorder of multiple dysfunction (Zoccolillo, 1992). This is consistent with the common features model of disorders proposed by Weiss, Susser and Catron (1998). In this model, symptoms that are features of several disorders such as low self-esteem, indicate that the child is having difficulty but does not constitute part of a specific disorder. This model helps to explain the overlap between syndromes by removing common features and leaving distinct features only.

Some researchers in this field view disruptive behaviour disorders as falling on a continuum from ODD through to CD (Frick, 1998). ODD is a pattern of conduct problems characterized chiefly by tantrums and defiance and confined largely to family, school and peer group settings (Behan & Carr, 2000). According to DSM-IV, the key features of ODD are a pattern of negativistic, hostile and defiant behaviour lasting at least six months during which four or more symptoms are present and with an onset usually before the age of eight (see Figure 2).

DSM-IV Criteria for Oppositional Defiant Disorder

A. A pattern of negativistic, hostile and defiant behaviour lasting at least 6 months, during which four (or more) of the following are present:

1) often loses temper
2) often argues with adults
3) often actively defies or refuses to comply with adults' requests or rules
4) often deliberately annoys people
5) often blames others for his or her mistakes or misbehaviour
6) is often touchy or easily annoyed by others
7) is often angry or resentful
8) is often spiteful or vindictive

Note: Consider a criterion met only if the behaviour occurs more frequently than is typically observed in individuals of comparable age and developmental level.

B. The disturbance in behaviour causes clinically significant impairment in social, academic or occupational functioning.

C. The behaviours do not occur exclusively during the course of a Psychotic or Mood Disorder.

D. Criteria are not met for Conduct Disorder, and if the individual is age 18 years or older, criteria are not met for Antisocial Personality Disorder.

Figure 2 DSM-IV Criteria for Oppositional Defiant Disorder

Symptoms of ODD tend to appear earlier than those of CD and the key distinction from CD is the absence of behaviour that violates the law and the basic rights of others such as theft, cruelty, bullying, assault and destructiveness. ODD has been described by some authors as a less pervasive precursor to CD. Indeed, those who go on to develop CD do not stop committing the acts of ODD but simply add the additional features of CD to their behavioural repertoire (Behan & Carr, 2000). However, other researchers maintain that CD and ODD are distinguishable

syndromes. ODD is not just a mild form of CD and ODD does not necessarily develop into CD (Loeber, Burke *et al*, 2000).

Frick (1998) conducted a meta-analysis of 60 studies that used factor analyses to identify clusters of related behaviour. Findings indicated that children with anti-social behaviour fall on two dimensions. The first is from covert to overt behaviour and the other is from destructive to non-destructive behaviour. This does bear some relation to DSM-IV clusters but is not exactly the same. It has been conceptualised in a diagram for ease of understanding (see Figure 3). ODD would lie in the bottom right quadrant. Overt CD would be in the top right quadrant and covert CD would lie to the left.

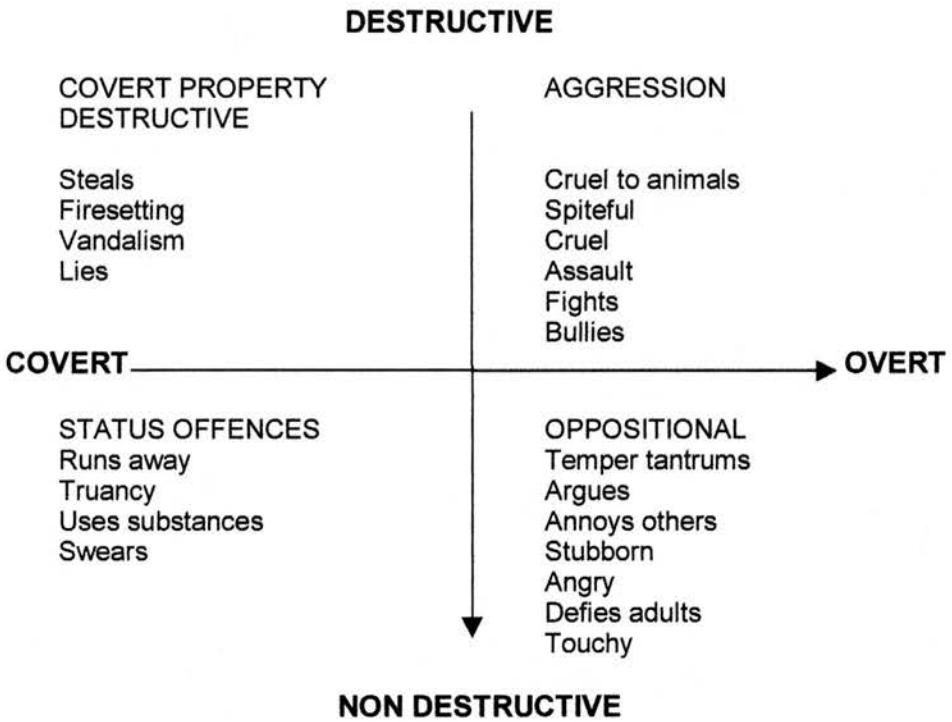
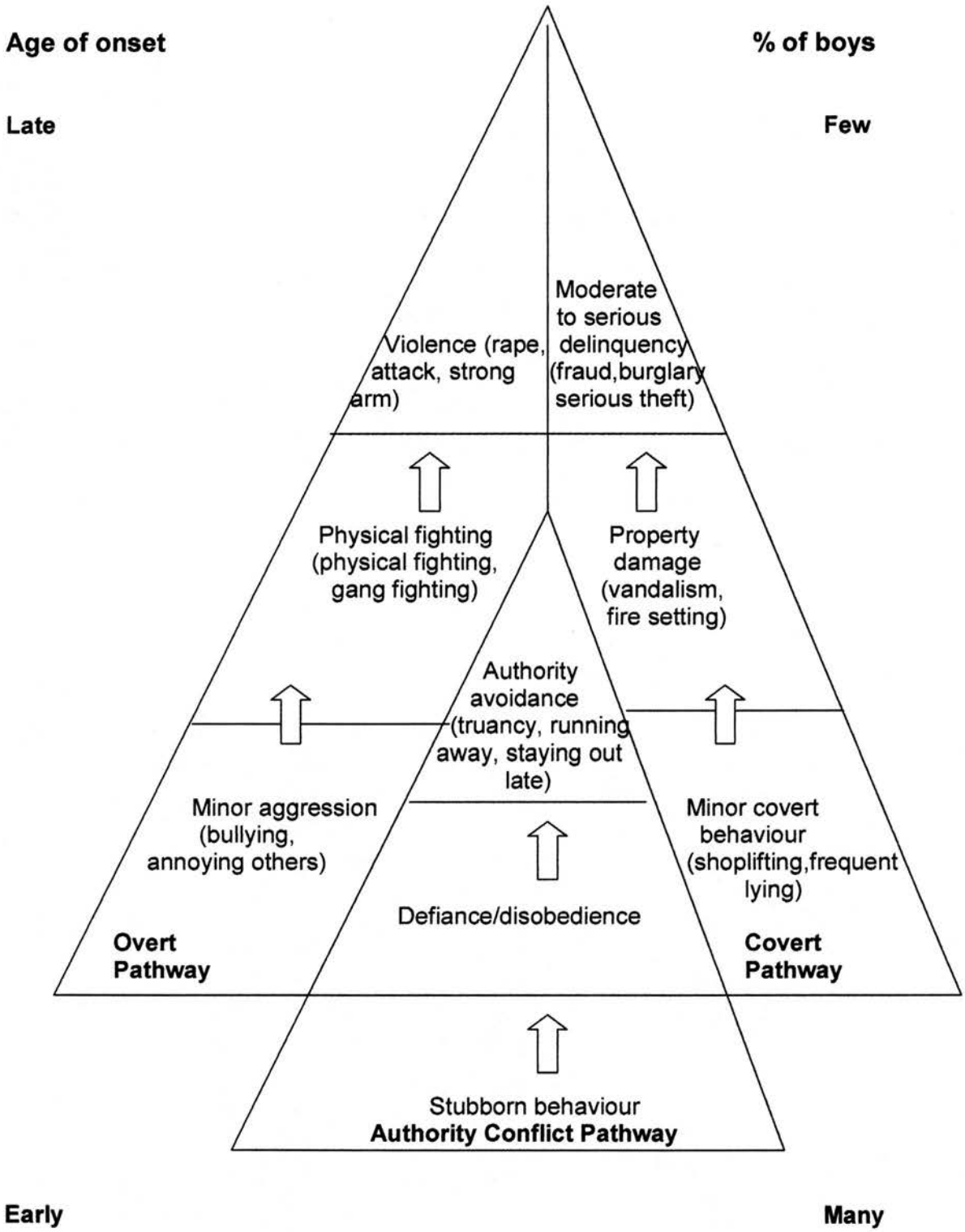


Figure 3. A diagram to illustrate the results of a factor analytical study of anti-social behaviour in children.

This model acknowledges overt and covert behaviours, destructive and non-destructive behaviour, aggressive and delinquent acts, within a framework which illustrates the exacerbation of behaviour as the child develops. CD and ODD remain distinguishable syndromes within this model.



Three pathways to boys' problem behaviour and delinquency

Figure 4 Pathway model for overt, covert and authority conflict

1.3 THEORIES AND MODELS OF THE AETIOLOGY OF CONDUCT DISORDER

The aim of this section is to describe some of the theories and models of the aetiology of CD in the literature.

1.31 Theories of the development of conduct disorder

Aetiological theories of CD are diverse. A selection of biological, social learning and information processing theories will be outlined below.

A number of aetiological theories are biological in basis. Recently, preliminary work has been carried out into the influence of genetics in the development of CD. Whilst acknowledging the importance of environmental factors, one researcher asserts that the family factors such as parental anti-social personality disorder considered to be risk factors for CD probably have some basis in genetics (Simenoff, 2001). Other biological theorists claim that children with CD have neuropsychological deficits, specifically in language-based verbal skills and in executive function (Lynam and Henry, 2001). They maintain that poor neuropsychological health pre-dates anti-social behaviour and that changes in neuropsychological status correlate with changes in socially acceptable behaviour. Some studies have supported the hypothesis that young people with CD have low verbal IQ's (Lahey, Loeber, Hart, *et al*, 1995) and that tests of executive function can discriminate between children with or without CD (Moffitt and Henry, 1989).

Other theorists take a markedly different approach. Attachment theory attempts to explain the way in which early relationships affect a child's expectation of others and

subsequent coping styles. Bowlby first posited this theory in 1944 (Bowlby, 1988). He believed that infants are innately programmed to elicit care in order to survive. Responsive parenting during babyhood shapes the child's working model of relationships. In the majority of cases attachment is achieved successfully. Disruption to the attachment process however leads to mistrust and anxiety. In pre-school children it is associated with lower sociability, anger, poorer peer relations and poorer behavioural self-control than other children. These are the criteria for early disruptive behaviour disorders. The theory has cognitive, behavioural and affective components.

This theory is supported by research that showed that pre-school aggressive behaviour was the best predictor for CD in later life suggesting that disruptive behaviours have always been part of the child's repertoire (Hughes, White, Sharpen & Dunn, 2000). In clinic samples of children with ODD, 80% were rated as having insecure attachments in infanthood (Greenberg, Speltz and De Klyen, 1993). Recently, attachment theorists such as Greenberg and his colleagues have not promoted attachment as the only risk factor for CD but one of a number of influences on behaviour including child biologic factors, family ecological variables and parental management and socialization processes.

Other causal theories of CD have their roots in social learning theory. Patterson (1992) proposed that the coercive conditioning a child receives from parents leads to social skills and academic deficits. Anti-social behaviour is therefore a learned behaviour which when reinforced at home is more likely to happen in future. The child also receives positive reinforcement from the peer group for anti-social behaviour. An association has been shown between harsh and inconsistent

parenting and childhood anti-social behaviour (Patterson, 1992). Adolescent anti-social behaviour has also been predicted from measures of family functioning in middle childhood (Farrington, 1978). This theory is not incompatible with other theories of the development of CD such as attachment theory.

One helpful way of conceptualising theories in a more cohesive way is to consider an aetiological theory involving multiple pathways and multiple risk factors such as that of Greenberg *et al* (1993). This theory suggests that each mechanism, such as attachment, is not essential to the development of CD but may contribute to its progression along with other factors. Current research therefore focuses on the risk factors that influence the likelihood that CD will develop and also the factors that are considered protective against its development. The factors considered as increasing risk for CD often stem from the theories outlined earlier. They include difficult temperament, neuropsychological deficits or difficulties, low academic functioning, psychopathology or criminal behaviour in the family, punitive parenting, parental conflict and socio-economic disadvantage. Protective factors are less well researched but include being the first born child, having an affectionate temperament, having high self-esteem, a high locus of control, a supportive same-sex role model and above average intelligence. In addition, the inverse of the risk factors have been found to be protective (Brosnan & Carr, 2000).

Other theories of the development of CD also accommodate several other aetiological theories. One such theory, which takes an information-processing approach has been developed by Dodge and his colleagues (Crick & Dodge, 1994; Dodge, 1993; Dodge, Bates, & Pettit, 1990). It integrates well with attachment and learning theories as it takes into account the experiences of the child but also

accommodates the child's cognitive processes. This theory supports the distinction between overt and covert CD by explaining that the two types of the disorder stem from different learning experiences and cognitive processes (Dodge, 1993).

1.32 Information-processing models of the development of conduct disorder

This section aims to discuss some of the information-processing models that attempt to explain the aetiology and maintenance of CD more fully.

These models have developed considerably over recent years. In 1986, Dodge published his social information-processing model of children's social adjustment (Crick & Dodge, 1994). It proposed that when processing a social cue children progress through four processing stages. First, they encode situational cues, second, they interpret those cues, third, they search through memory for an appropriate response and finally they act. However, this model had a number of deficiencies. Its linear design did not relate to research from cognitive science which suggested that processing of cues occurs in parallel. In addition, it did not take into account the reciprocal nature of social interactions whereby adolescents react to the responses they get from their peers which feeds into the process. Finally, as it was not an on-line processing model, past events were not shown to be influencing current events.

A more complex social information-processing model of CD was therefore reformulated by Crick & Dodge in 1994 (see Figure 5). In its six stages, it describes the mental processes thought to be responsible for maladaptive behaviour. It links

the perceptual, problem-solving and evaluative components of information processing thought to lead to the activation of anti-social behaviour.

Crick and Dodge describe the sequence of events in their model as follows:

The child approaches the social situation with a set of biologically limited capabilities and a database of past experiences. This acknowledges the influence of experiential and biological theories of causality. The individual then scans the environment, attends to relevant social cues and encodes them in short-term memory. As the stimulus array is complex, the individual has to attend to cues selectively in order to function more effectively. In a situation where peers' intentions are unclear, a child with CD may fail to encode mitigating cues or show a bias towards attending to certain cues. The authors maintain that either of these errors could lead the child to respond aggressively.

Next, they explain that children rely on heuristics or schemata from past social experiences when presented with an overwhelming amount of information. These form the database in the model which influences on-line processing of social cues. On-line processing in turn influences behaviour. Social behaviour and its outcomes are stored in memory and are added to the social knowledge that will inform future processing. Schemata simplify cognitive tasks and make processing more efficient but can lead to judgement and reasoning errors. This hypothesis was supported by the finding that children with CD have been shown to rely too heavily on particular schemata which may be partly responsible for problematic social behaviour (Dodge &Tomlin, 1987).

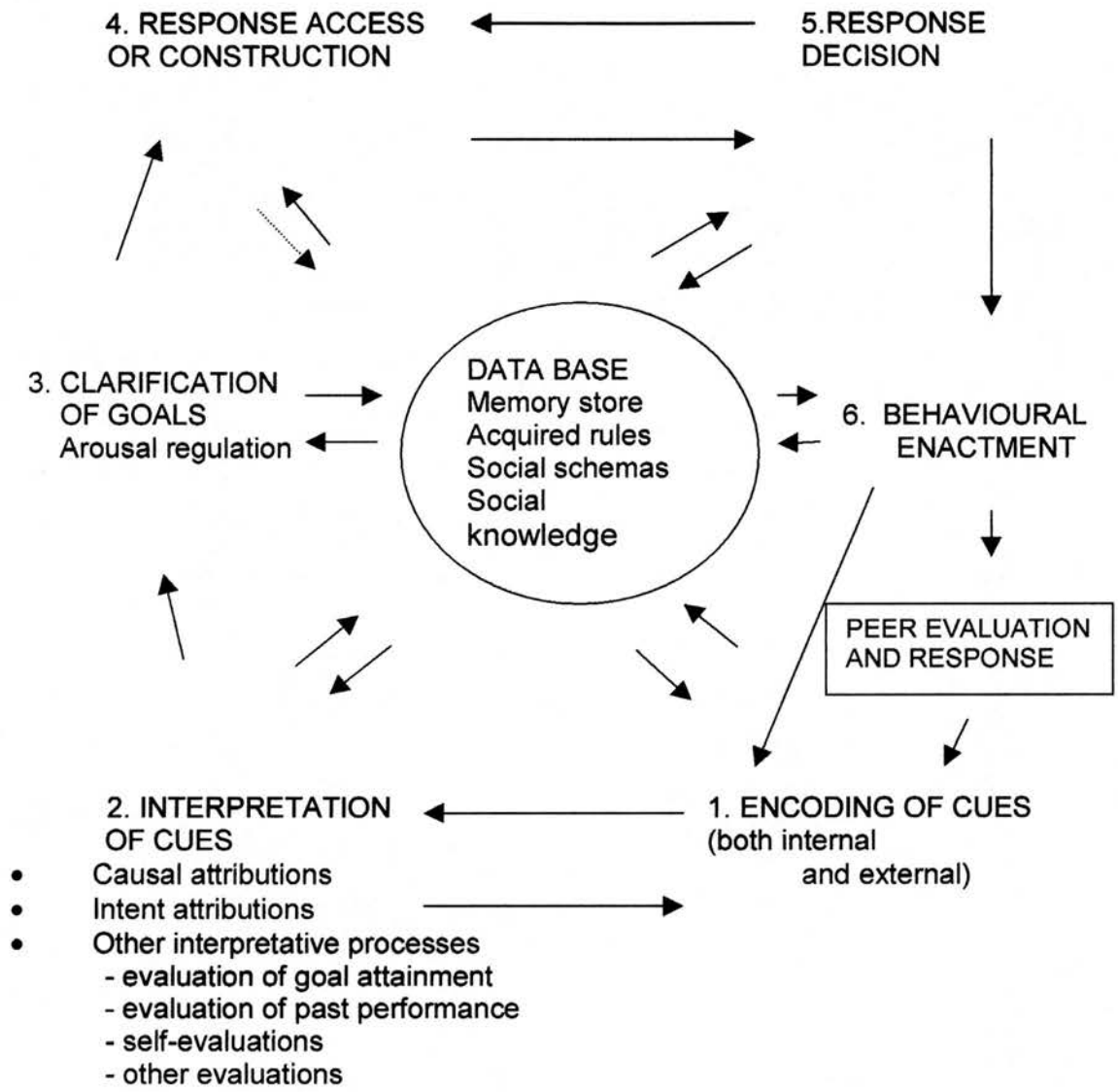


Figure 5. A reformulated social information-processing model of children's social adjustment (Crick & Dodge, 1994)

The behavioural response of the individual is linked to the interpretation of the social cue. The cue is more likely to be interpreted as hostile if the individual has experienced hostile situations in the past. There is support in the literature for this premise as aggressive children have been shown to attend to aggressive cues more often than non-aggressive children, showing selection bias (Gouze, 1987). Hostile attributional biases have been linked to social adjustment in children (eg Dodge *et al*, 1990). The individual also assesses whether their action was successful during a previous interaction with this peer. This takes into account the reciprocity of personal interactions. Hostile action may have been reinforcing for the young person in the past as Patterson maintained in his coercive parenting theory (1992).

The authors then propose that the child decides what their goal is for the situation, for instance making friends or obtaining money. Causal attributions have been shown to aid subsequent goal definition (Weiner & Graham, 1984). Next, the individual generates a range of possible responses from memory. Crick and Dodge (1994) hypothesise that maladjusted children may have memory deficits that interfere with their encoding and retrieval of social cues and schemata. They may have well developed social schemata that interfere with their ability to process or use immediate social cues. The likely effects of each of their options are evaluated in the light of past experiences and the child's ability to implement each choice. The most positively reinforced choice will then be selected and enacted. Problematic behavioural responses such as aggression are considered to be the result of deficits or biases in one or more of these stages.

One of the strengths of the reformulated model when compared with the original model is that it is a circular rather than linear model. This means that the process

can be re-started in response to any reaction to the behaviour. Individuals may be assessing several cues at the same time and may be at different stages of the model for each cue.

Another strength is that emotion features in every stage of the model. For example, in the perception and interpretation stages, a child who felt anger at a previous encounter with a peer may experience this emotion at a subsequent meeting (Pettit, Polaha and Mize, 2001). This may influence the way in which the child interprets the peer's behaviour. It is difficult to maintain full attention and engage in efficient processing when physiologically aroused. Thus, when in high emotional states distortions may be exacerbated. Despite the strengths of the reformulated model, it should be borne in mind that the majority of research in support of this model has involved one of the original authors. It has not therefore been subjected to rigorous peer review.

In summary, single cause theories of CD have generated a great deal of interest and supportive research in the past. However theories and models which integrate a number of possible explanations address the variation in the presentation of the disorder more comprehensively.

1.4 EXPECTED OUTCOMES FOR CONDUCT DISORDER

The aim of this section is to review the recent literature regarding the stability of the diagnosis of CD over time and the prognosis for those with CD in terms of psychological and social adjustment.

1.41 Stability of the diagnosis

The diagnosis of CD appears to be quite stable over time. In 1976, all children on the Isle of Wight aged 10-11 were surveyed for psychiatric disorder (Rutter, Tizard, Yule, Graham & Whitmore, 1976). Three quarters of those with conduct disorder still met the criteria for the disorder at follow-up four years later. In a clinical sample of 984 children, those with CD showed a pervasive impairment at intake and a chronic course (Lambert, Wahler, Andrade & Bickman, 2001).

As discussed earlier, young people with CD do not make up an homogenous group. Some researchers emphasise that certain symptoms appear to be more significant than others in terms of outcome. In children under the age of ten, features such as use of a weapon or cruelty to other people are associated with persistent conduct problems. (Loeber, Green *et al*, 2000). Persistent physical fighting in pre-schoolers has been found to be the best predictor of later CD and ODD However, other researchers maintain that the number rather that the type of features at diagnosis is important in terms of outcome. They posit that those with the most symptoms and the highest degree of impairment at diagnosis will be most likely to retain a diagnosis of CD 18 months later (Pickles, Rowe, Simenoff, Foley, Rutter & Silberg, 2001). Both of these schools of thought are consistent with DSM-IV criteria but in different ways. Loeber, Green *et al's* (2000) research ties in with DSM-IV by requiring an age of onset classification but doesn't promote any one feature as more important than the others. However, Pickles *et al*, (2001) consider number rather than type of symptoms to be important as prognostic indicators and acknowledge impairment to social and academic functioning which fits in with other specifications of DSM-IV.

1.42 Psychological adjustment

The prognosis for CD has often been shown to be poor in terms of psychological adjustment.

"...conduct disorders have a generally poor outcome with respect to symptomatology and social impairment" (Rutter *et al*, 1976).

CD in childhood has been associated with internalising problems both in childhood (Rutter *et al*, 1976) and in later life (Robins and Price, 1991). In a review of child and adult general population studies, it was shown that increased severity of anti-social behaviour was associated with increased risk of an emotional disorder (Zoccollillo, 1992).

Children with CD in adolescence are at greater risk of committing suicide in later life. In a study of 97 people who had been diagnosed with CD and depression in adolescence, 44.3% had attempted suicide at least once at follow-up 20 years later. Suicide rates for this group were six times higher than average (Fombonne, Wostear, Cooper, Harrington & Rutter, 2001b).

Personality disorders are serious conditions also associated with childhood disruptive behaviour disorders (Fombonne, Wostear, Cooper, Harrington & Rutter, 2001a). Of 145 subjects with ODD or CD during adolescence, 40% were found to meet the criteria for a personality disorder in adulthood (Rey, Morris-Yates, Singh, Andrews and Stewart, 1995). These were usually from cluster B of the personality disorders which comprises antisocial, borderline, histrionic and narcissistic

personality disorder. Although anti-social personality disorder cannot be diagnosed in those under the age of 18, some features of this personality disorder are present in some teenagers with CD. These symptoms correspond to the top right quadrant of Figure 3 which is described as destructive/ aggressive behaviour (Frick, 1998). Adults with an anti-social personality disorder were 2-5 times more likely to experience anxiety and depression than a control group with no personality disorder. This finding is consistent with increased rates of internalising disorders apparent in children with CD (Robins and Price, 1991).

1.43 Social adjustment

Social adjustment in later life can be difficult for those who have had conduct disorder in childhood. Areas of life such as work and personal relationships can be significantly affected. Compared with the general population, adults with a past history of CD experience significantly raised levels of unemployment, low incomes and lower rates of housing tenure (Fombonne *et al*, 2001b). They also struggle with adult personal relationships. Lower rates of cohabitation have been reported amongst this population and an increased incidence of divorce compared with the general population. (Fombonne *et al*, 2001b).

Rates of criminality and substance misuse amongst adults with a history of CD are also high. Those with CD and a depressive disorder in childhood have an increased likelihood of becoming involved with the criminal justice system in adulthood (Fombonne *et al*, 2001b). They reported that this group was involved in a variety of criminal behaviours and about four in ten (39.6%) had criminal convictions. Nine out of ten children with 3 or more symptoms of CD were self-reported frequent offenders

a year later compared with 17% of children with no CD symptoms (Loeber, Green *et al*, 2000). CD has also been shown to be associated with the development of drug and alcohol problems (Wilens, Biederman, Abrantes & Spencer,1997). In a population of 156 adolescents with substance abuse problems, 71% were shown to have CD (Bukstein, Glancy & Kaminer, 1992). Likewise, an increased misuse of drugs has been reported amongst those with disruptive disorders when compared with those without CD or CDD (Cohen, Cohen, Kasen, Velez, Hartmark, *et al*, 1993).

These issues may be interrelated and fit in with the multiple risk factor theories of the cause and maintenance of CD outlined in section 1.3. For instance, self-medication using illegal substances may alleviate anxiety but may result in involvement with the police. A person with a criminal record may find it difficult to secure a job and hence low income makes it difficult to afford a home. Time spent in prison affects personal relationships and there is an increased risk of homelessness on leaving prison (Fombonne *et al*, 2001b). These consequences also impact on the children of those with CD, possibly perpetuating the disorder because parental mental health problems and criminality are risk factors for CD (Brosnan & Carr, 2000). In addition, the financial cost to society has been estimated as £15 370 per annum for each child with CD (Knapp, 2001).

1.44 Summary

The long-term psychological and social consequences are immense for children with this pattern of behaviour. In addition, there are huge costs to society financially

and in terms of crime rates. Appropriate management of this group of children is clearly very important.

1.5 PREVALENCE AND CO-MORBIDITY OF MENTAL HEALTH PROBLEMS IN ADOLESCENCE

As mentioned in the previous section, young people with CD have elevated levels of mental health difficulties. This section aims to discuss prevalence rates for mental health problems amongst adolescents in general and to consider the co-morbidity rates for other psychological problems with CD.

1.51 Prevalence of mental health problems in adolescents

There are a number of recent, large randomised control trials that have established the prevalence of psychiatric diagnoses in community samples of adolescents (eg Romano, Tremblay, Vitaro, Zoccolillo and Pagini, 2001; Sawyer, Arney, Baghurst, Clark, Graetz *et al*, 2001). They can be used for comparison to indicate raised levels of pathology in specific populations hence they will be discussed in sections 1.52 and 1.53.

1.52 Prevalence of internalising disorders

This section will concentrate on the prevalence of internalising disorders in young people. Anxiety and depressive disorders can be defined as internalising disorders because they manifest privately, for instance as lowered mood or elevated stress levels.

Internalising disorders are relatively common amongst children and adolescents. The one-year prevalence rate for all internalising disorders in a recent community sample of 3597 children and adolescents was 12.8% (Sawyer *et al*, 2001). In 1987, a sample of 150 adolescents reported a prevalence rate of 8.7% for any anxiety disorder and the prevalence rate for depressive disorders was reported to be 8% (Kashani, Beck, Hoeper, Fallahi, *et al*, 1987).

However, more recent reviews have suggested that anxiety disorders amongst girls may be more common than this (Ronan & Deane, 1998). In a study in New York, prevalence rates for overanxious disorder at age 14-16 were 14.1% for girls but only 5.3% for boys (Cohen *et al*, 1993). Girls were also more likely than boys to have separation anxiety. Prevalence rates were reported as 4.6% for girls and 1.2% for boys at age 14-16 (Cohen *et al*, 1993). Similarly, in a community sample of 490 adolescents in America, 3% of girls as opposed to 1% of boys met the DSM –IV criteria for post-traumatic stress disorder (PTSD) (Cuffe, Addy, Garrison, Waller, Jackson, McKeown, & Chilappagari, 1998).

Females also appear to have higher prevalence rates than males of depressive disorders. Whereas the prevalence rate for depressive disorders in one study was reported to be 8% overall, individually it was 2.7% for boys and 13.3% for girls (Kashani, Carlson & Beck, 1987). In a recent American study, the point prevalence rate for major depressive disorder in adolescents was 3.4% for girls and 2.0% for boys (Birmaher, Ryan, Williamson, Brent, Kaufman *et al*, 1996). This discrepancy was even more marked in a sample of young people in New York aged 10-20. The prevalence of major depression by age 14-16 it was 7.6% for girls and 1.6% for

boys (Cohen *et al*, 1993). Across the lifetime, prevalence was shown to be 24.8% in females and 11.6% in males (Lewinsohn, Rohde & Seeley, 1998).

The reasons for females having a higher prevalence of internalising disorders than males are not clear. It is not simply the case that women seek help more readily as these studies were often based on community populations rather than clinic samples.

1.53 Prevalence of externalising disorders

Externalising disorders tend to attract the attention of families and carers as the behaviour is obvious and overtly challenging. CD, ODD and attention deficit hyperactivity disorder (AD/HD) can all be described as externalising disorders. This section will discuss prevalence rates for externalising disorders amongst young people.

In a recent, large, community study externalising disorders were found to be as common as internalising disorders. The one-year prevalence rate for externalising disorders in a sample of 3597 children and adolescents was 12.9% (Sawyer *et al*, 2001).

Prevalence rates for externalising disorders are inconsistent across studies (Cohen *et al*, 1993; Kazdin, 1993; Sawyer *et al*, 2001; Simenoff, Pickles, Meyer, Silberg, Maes *et al*, 1997). In a review of prevalence studies, community prevalence rates for CD varied between 2.6 and 15.8% (Loeber & Stouthamer-Loeber, 1998) and prevalence rates for ODD ranged from 2.1% through to 15.4%. In a recent review

paper AD/HD was described as the most common emotional, cognitive and behavioural disorder treated in youth (Wilens, Biederman & Spencer, 2002). However, in a review of studies, the rates of AD/HD in general population studies were shown to vary from 0.6% through to 12% (Angold, Costello & Erklani, 1999).

Most studies have found that externalising disorders occur in boys more often than in girls. One possible explanation is that girls manifest psychological distress internally whereas boys demonstrate it externally. This would explain the differing rates for internalising disorders between boys and girls too. In one review, boys were between three and four times more likely than girls to exhibit the stipulated behaviours for CD (Loeber, Burke *et al*, 2000). Similarly, in a sample of 975 families, the prevalence rate of AD/HD was 8.5% for girls and 17.1% for boys aged 10-13 and 6.55% for girls and 11.4% for boys aged 14-16 (Cohen *et al*, 1993). However, in one study in New York, girls had ODD almost as often as boys at age 10-13 and by age 14-16 15.6% of girls and 15.4% of boys met the diagnostic criteria for ODD. However, in the same study, girls were only half as likely as boys to have CD at this age.

The prevalence rates discussed in this section vary considerably. This is possibly because studies were conducted in different countries, used children of different ages, from varying socio-economic backgrounds and different instruments to measure pathology. Comparison of rates has been made even more difficult by the revisions to the classification systems.

1.54 Co-morbidity of internalising and externalising disorders with conduct disorder

This section will report on the co-occurrence of CD with other psychological disorders and will describe briefly some current debates surrounding co-morbidity. In many of the co-morbidity studies reviewed in this section, figures for CD and ODD are combined. Rates may therefore be described for disruptive disorders together rather than for the individual diagnoses.

There is evidence for substantial co-morbidity of psychiatric disorders amongst adolescents. In a study of 2762 sets of twins, it was found that 38% of those adolescents with one psychiatric diagnosis also met the criteria for a second (Simenoff *et al*, 1997). In a clinic study of 984 children, the 156 children who had CD met the criteria for 2.2 diagnoses on average and 25% met the criteria for three or more diagnoses (Lambert *et al*, 2001).

1.55 Co-morbidity of internalising disorders with conduct disorder

Internalising disorders occur frequently with CD (Simenoff *et al*, 1997). In a recent community study, the 984 children with CD had significantly higher rates of overanxious disorder, major depressive disorder and dysthymia than a control group without CD (Lambert *et al*, 2001). Similarly, in a sample of youths incarcerated for anti-social behaviour, the level of internalising problems was reported at 63% which was much higher than in the control group without CD which was 22% (Barriga, Landau, Stinson, Liau & Gibbs, 2000).

However, the rate at which CD has been found to co-occur with any anxiety disorder is variable (Bird, Gould, & Staghezza, 1993; McGee, Feehan, Williams, Partridge, Silva, & Kelly, 1990). In a review of recent studies, the rate of all anxiety disorders in those with CD or ODD ranged from 4.8-25% (Angold *et al*, 1999). In addition, there is a paucity of literature detailing co-morbidity rates for individual anxiety disorders with CD. Studies have tended to consider anxiety disorders as a group despite the differing profiles of individual anxiety disorders. However, the limited research has indicated that PTSD occurs frequently with CD. In a community sample of adolescents with CD over half reported exposure to trauma and 17% met the DSM-IIIR criteria for PTSD (Reebye, Moretti, Wiebe & Lessard, 2000). Similarly, in a sample of incarcerated youths 30% met the criteria for PTSD (Steiner, Garcia & Matthews, 1997). Likewise, social phobia occurs at a higher rate than might be expected amongst those with conduct problems whereas generalized anxiety disorder has been linked with mood disorders (Pine, Cohen, Cohen & Brook, 2000).

It has also been shown that anxiety problems occur with CD and ODD specifically, rather than with externalising difficulties generally. Anxiety disorders have been found to occur more frequently with ODD and CD than AD/HD (Simenoff *et al*, 1997).

In a review of recent trials, rates of depression in those with CD or ODD varied widely, ranging from 4 – 45.9% (Angold *et al*, 1999). The co-occurrence of CD and depressive disorders has been well documented however and rates most commonly fall in the middle of the range around 20% (Mamorstein & Iocono, 2001).

1.56 Co-morbidity of other externalising disorders with conduct disorder

There are many interesting debates surrounding the co-morbidity of AD/HD with other disorders. Unfortunately, there is not space to investigate such issues here where the focus is CD and its co-morbid diagnoses. However the rates of co-occurrence between these two disorders will be outlined briefly.

In a review of studies that had used DSM-IV criteria, the rate of AD/HD in those with CD or ODD ranged from 25-67% (Angold *et al*, 1999). Most commonly however, studies report figures near to the centre of this range, around 23 to 35% (Bird *et al*, 1993; Brosnan & Carr, 2000). Likewise in a sample of 579 children with AD/HD, the prevalence of conduct disorder was 29.5 % (Jensen, Hinshaw, Kraemer, Lenora, Newcorn *et al*, 2001).

1.57 Issues surrounding co-morbidity

Co-morbidity of diagnoses with CD is an important issue as it has implications for outcome, classification, service provision and theories of causality. In a review of recent studies, Nottelman and Jensen (1995) indicated that adolescents with CD and co-morbid internalising or externalising difficulties are more likely to have continuing difficulties than those with a single diagnosis of CD. They are also more likely to have an earlier age of onset of the disorder (Ollendick, Seligman, & Butcher, 1999). Two or more diagnoses also result in greater social impairment (Nottelman and Jensen, 1995).

Secondly, the high rate of co-morbidity of other psychological problems with CD has lead to debate regarding the adequacy of the current diagnostic classification systems. Some researchers have queried whether CD is simply a sub-group of other disorders or an early manifestation of an internalising disorder or an anti-social personality disorder (Kazdin, 1995b). A category of mixed depressive conduct disorder has been suggested to address this issue in part (Rutter, 1989). However, Zoccolillo (1992) argues that this is not a valid category as children in the Isle of Wight studies with mixed disorders often changed to pure conduct disorder at follow-up and vice versa. He also refuted the claim that CD is an early manifestation of internalising disorders as it is unsupported by findings from longitudinal studies. He prefers the theory that co-morbidity indicates that CD is a disorder of multiple dysfunction. This was supported by Lambert *et al* (2001), who found those with CD had significantly higher scores for total problems than children with other diagnoses,

A third reason why co-morbidity is so important relates to service provision. CD is often viewed as a social problem that should be dealt with by social work departments rather that one which belongs under the jurisdiction of mental health services (Carr, 2000). However, when the psychological health of children with conduct disorder has been analysed, the incidence of co-morbid psychological problems has consistently been found to be elevated in comparison with community control groups (Angold *et al*, 1999; Mamorstein & Iacono, 2001). This suggests that there is a role for mental health teams in the care of children with CD.

Co-morbidity also has implications for causality. In one sample, 26% of children with disruptive disorders also had an anxiety disorder and in the same study, 36% of those with an anxiety disorder also had a disruptive disorder. (Cohen *et al*, 1993).

This suggests a causal link but it is not possible to tell which disorder influenced the other in this particular study. However, in the Isle of Wight studies, an appreciable minority of children who had CD at the age of 10-11, had an additional emotional disturbance at age 14-15 (Rutter *et al*, 1976). This suggests that the externalising problems preceded the mood disorder.

1.58 Summary

In summary, the prevalence rates discussed in this section vary considerably. Co-morbidity rates for other psychological problems with CD are generally high. However, the evidence to suggest that CD leads to internalising difficulties is not conclusive.

1.6 COGNITIVE BEHAVIOUR THERAPY FOR MENTAL HEALTH PROBLEMS

This section aims to describe the theoretical foundations, features and strategies of cognitive behaviour therapy (CBT) and to review the literature on cognitive distortions, the efficacy of CBT and to discuss CBT for CD.

CBT is a psychological approach to mental health problems for adults which has developed rapidly over the past thirty years (eg Beck, Rush, Shaw & Emery, 1979; Beck, Freeman & associates, 1990; Clark and Fairburn, 1997). Therapies for adolescents have not developed as quickly, but CBT has been adapted and evaluated for application with mood and anxiety disorders in children and adolescents (eg Kendall, 1994; Lewinsohn, Clarke, Hops & Andrews, 1990). The

body of research into CBT for CD remains small but is also growing (eg Kendall & Morris, 1991; Sheldrick Kendall and Heimberg, 2001).

1.61 Cognitive behaviour therapy for adult mental health problems

1.611 Theory of cognitive behaviour therapy for adult mental health problems

Cognitive-behaviour therapy (CBT) is an active, directive, time-limited, structured, psychological approach to mental health difficulties originally devised to treat depression in adults (Beck *et al*, 1979). It combines behavioural and cognitive techniques and draws on both social learning theory and information-processing models.

Cognitive therapy is based on a number of assumptions from cognitive theory. These include that:

- perception and experience are active processes which involve both inspective and introspective data
- the patient's cognitions represent a synthesis of internal and external stimuli
- the way in which a person appraises a situation is generally evident in his cognitions
- these cognitions constitute the person's stream of consciousness which reflects the person's beliefs about himself, his world, his past and future
- alterations in the content of the person's underlying cognitive structures affect his or her affective state and behavioural pattern

- through psychological therapy a patient can become aware of his cognitive distortions
- correction of these faulty dysfunctional constructs can lead to a reduction in psychological distress

(Beck *et al*, 1979)

1.612 Cognitive distortions in adults with mental health problems

There are six types of faulty information processing mechanisms or cognitive distortions defined in the literature (Beck *et al*, 1979). These are:

1) arbitrary inference – the process of drawing a specific conclusion in the absence of evidence to support the conclusion or when the evidence is contrary to the conclusion

2) selective abstraction – this consists of focussing on a detail taken out of context, ignoring other more salient features of the situation and conceptualising the whole experience on the basis of this fragment

3) overgeneralisation – the pattern of drawing a general rule or conclusion on the basis of one or more isolated incidents and applying the concept across the board to related and unrelated situations

4) magnification and minimisation – reflected in errors in evaluating the significance or magnitude of an event that are so gross as to constitute a distortion

5) personalisation- the patient's proclivity to relate external events to himself when there is no basis for making such a connection

6) absolutist, dichotomous thinking – manifested in the tendency to place all experiences in one of two opposite categories. In describing himself the patient selects the extreme negative categorisation.

In his work with adults, Beck and his colleagues suggested that not only do adults with internalising psychological problems make cognitive errors but also that they make errors specific to their diagnosis. For example, depressed people were shown to make errors of selective abstraction (Beck *et al*, 1979).

1.613 Cognitive behavioural treatment strategies for adult mental health problems

Therapeutic techniques are designed to identify, reality test and correct distorted conceptualisations and the dysfunctional beliefs (schemas) underlying these cognitions. The therapist helps the patient to challenge the cognitive processes so that he thinks and acts more realistically and adaptively leading to symptom reduction.

1.614 Efficacy of cognitive behaviour therapy for adult mental health problems

There are a number of large scale efficacy studies of CBT in adults. When compared with other treatment approaches for adult mental health difficulties, CBT has been shown to be efficacious (Elkin, Shea, Watkins, Imber, Sotsky *et al*, 1989). A 62% improvement was shown in those subjects who received CBT, 70% for interpersonal psychotherapy and 76% for anti-depressant medication with clinical management (Elkin *et al*, 1989). Although anti-depressants outperformed CBT,

medication is not suitable for all patients and CBT was shown to have better results than medication at follow-up. When compared with a no-treatment condition, a review of recent studies showed an average improvement of 66% for CBT (Clark & Fairburn, 1997).

1.62 Cognitive behaviour therapy for adolescents

1.621 Theory of cognitive behaviour therapy for adolescents

There is evidence to support the application of Beck's cognitive theory of depression from adults to adolescents (Thurber, Crow, Thurber and Woffington, 1990). However, CBT does need to be adapted for children and adolescents in order to accommodate their developmental and emotional levels. As with adults, CBT for adolescents posits that affect and behaviour are largely determined by the way the individual structures the world. Complex interactions between cognitive processes, environmental contexts and experiences contribute to dysfunctional behaviour.

1.622 Cognitive distortions in adolescents with internalising disorders

Cognitive distortions but not deficits have been linked to internalising problems in adolescents (Leung and Wong, 1998). There is evidence that depressed children make significantly more cognitive errors than non-depressed children (Thurber *et al*, 1990). Likewise, children with anxiety regarding social evaluation make significantly more cognitive errors than their peers without anxiety problems (Leitenberg, Yost & Carrol-Wilson, 1986,).

Cognitive distortions have also been associated with severity of internalising disorders in adolescents. Several recent studies have reported that greater levels of depressive symptoms correlated with high frequencies of cognitive errors (Leitenberg *et al*, 1986; Marton and Kutcher, 1995). Cognitive distortions have been shown to increase in number as the severity of the disorder increases (Leung and Wong, 1998).

Some studies have shown that adolescents as well as adults with internalising problems make errors specific to their diagnosis. Different patterns of distortions have been shown for children with anxiety and depression (Leung and Poon, 2001). In a community sample, catastrophising was shown to be a significant predictor of anxiety disorders (Leung and Poon, 2001). More specifically, a study of different types of anxiety, reported that overgeneralization was the strongest predictor of trait anxiety whereas catastrophising and personalising were the strongest predictors of anxiety sensitivity and manifest anxiety (Weems, Berman, Silverman & Baavedra, 2001). In one study, overgeneralisation was found to differentiate a depressed group from a non-depressed group in a clinic sample of 149 adolescents (Messer, Kempton, Van Hasselt, Null, & Bukstein, 1994). Similarly, in a more recent study overgeneralisation and selective abstraction were found to be the best predictors of depression in children (Weems *et al*, 2001).

However, reports on the specificity of distortions have been contradictory. In one study, catastrophising was found to be a significant predictor of depression not anxiety (Leung and Poon, 2001). In the same study, an association was shown between personalisation and depression rather than overgeneralisation or selective

abstraction. On balance however, the evidence supports the specificity hypothesis of cognitive distortions (Leung and Wong, 1998).

It has not been established conclusively whether those who make cognitive errors develop internalising disorders or whether those with internalising disorders then make cognitive errors. One study showed that children who made negative errors were more likely to be stressed following the divorce of their parents (Mazur, Wolchik, Verdin, Sandler & West, 1999). This supports the hypothesis that cognitive errors are a causal mechanism of internalising disorders. However, this theory is contradicted by other researchers who reported that cognitive distortions dissipate as depression is alleviated suggesting that depression causes cognitive errors (for example, Tems Stewart, Skinner, Hughes & Emslie, 1993).

1.623 Cognitive behaviour treatment strategies for adolescent mental health problems

In summary, CBT for adolescents with internalising problems aims to alleviate symptoms such as anxiety or depression and to facilitate developmental processes. It does this by focussing on helping the client to monitor cognitions, affect and behaviours, examining the evidence for and against distorted cognitions, substituting more helpful interpretations and learning to alter the dysfunctional beliefs that predispose the individual to distort his or her experiences. As with adults, the emphasis is on learning processes and the teaching of skills. It encourages the preservation of helpful behavioural strategies but adds cognitive exercises in an effort to bring about therapeutic change. It is recommended that

therapy be incorporated into family life (Ronen, 1998). However, as the process is still collaborative, the child retains some measure of control over treatment.

1.624 Efficacy of cognitive behaviour therapy for adolescent mental health problems

In a recent review of the literature on CBT with children and adolescents, significant improvements in symptomatology were reported following CBT with children with internalising problems (Southam-Gerow & Kendall, 1997). This improvement has been reported for groups of children both with anxiety (Kendall, 1994) and depressive disorders when compared with a waiting list control group (Lewinsohn *et al*, 1990). One group of authors maintain that the treatment was efficacious because it was able to modify the cognitive distortions apparent in the anxious or depressed children (Southam-Gerow & Kendall, 1997, Kendall, Reber McLeer, Epps & Ronan, 1990). This hypothesis was supported by findings from a longitudinal clinic study, which reported a reduction in cognitive errors following CBT for depression. (Tems *et al*, 1993).

1.63 Cognitive behaviour therapy for externalising disorders

1.631 Theory of cognitive behaviour therapy for externalising disorders

CBT for CD is based on the theory that children with difficult behaviour suffer from both cognitive deficits and cognitive distortions. This was the central premise of Crick and Dodge's information processing theory that was evaluated in section 1.3. Cognitive deficits refer to cognitive processes that lead the child to act without

forethought whereas cognitive distortions occur when material is processed in a biased way (Dodge *et al*, 1990).

Deficits illustrated by adolescents with CD include difficulty anticipating the consequences of their behaviour (Herbert, 1998), generating few alternative solutions to interpersonal problems (Ronen, 1998), generating impulsively more action-oriented and aggressive solutions without stopping to think of non-aggressive solutions (Herbert, 1998), seeing fewer consequences associated with their behaviour (Ronen, 1998), and focussing on ends or goals rather than on the intermediate steps towards attaining them (Ronen, 1998).

Distortions include recalling high rates of hostile cues present in social stimuli, attending to fewer cues when interpreting the meaning of others' behaviour, attributing others' behaviour in ambiguous situations to their hostile intentions, under-perceiving their own levels of aggressiveness and under-perceiving their responsibility for early stages of dyadic conflict (Herbert, 1998).

There is some evidence for the hypothesis that children with AD/HD are thought to have a deficit in active information processing whereas children with CD demonstrate cognitive distortions (Dodge, McClaskey, & Feldman, 1985). However other research has indicated that children with CD have cognitive deficits as well as distortions (Southam-Gerow & Kendall, 1997).

1.632 Cognitive distortions in adolescents with externalising disorders

The evidence for the existence of cognitive distortions in externalising disorders has also been mixed. There is some evidence that adolescents with CD do make cognitive errors. One study showed that those with CD had significantly higher rates of all four types of cognitive error than control groups (Kempton, Van Hasselt, Bukstein, and Null, 1994). Similarly, a sample of 96 incarcerated youths showed an increased number of cognitive distortions when compared with a control group (Barriga *et al*, 2000). However, in a review of recent literature no studies were found that indicated cognitive distortion as being a primary mechanism in AD/HD (Epkins, 2000).

There is also some support in the literature for the premise that subjects with an externalising disorder could be discriminated from those with an internalising disorder by examining their cognitive errors. In one study, those with an externalising disorder could be identified by their elevated overgeneralisation scores (Messer *et al*, 1994). Barriga and his colleagues (2000) also concluded that there were differences in the cognitive-processing tendencies associated with internalising and externalising problems. Self-serving processing biases were associated with externalising behaviours and self-debasing cognitive distortions were linked to internalising disorders.

There is also a small evidence base suggesting that adolescents with multiple disorders are more likely to commit cognitive errors than those with a single diagnosis. Subjects with depression, CD and substance abuse reported the greatest number of catastrophisation and personalising distortions (Kempton *et al*, 1994).

1.633 Cognitive behavioural treatment strategies for adolescent conduct disorder

CBT for children with CD aims to decrease behaviours such as aggression and impulsivity and to improve behaviours such as social skills and self-evaluation. This is achieved by helping them to select appropriate behaviour for everyday life focussing on the process rather than the outcome.

CBT for CD combines cognitive and behavioural methods to lead to effective problem solving. Cognitive interventions aim to alter specific perceptions, images, thoughts and beliefs through restructuring faulty, maladaptive cognitions, altering attributional processes, learning to negotiate conflict, learning to label affect, and skills training to compensate for social-skills deficits and generating problem-solving strategies (Herbert, 1998). Behavioural techniques include operant conditioning using shaping, modelling and reward schemes (Herbert, 1998).

In practical terms, a child may be encouraged to stop and think before acting. To think about what the problem is and to consider the full range of options before acting. To focus on the specific problem rather than extraneous stimuli in order that he can select an appropriate response. Children would also be encouraged to praise themselves after going through this process. This takes a child through Crick and Dodge's model in a way they can understand, using everyday language.

Strategies should be tailored to the individual child's weaknesses. The type of information-processing difficulties they exhibit has implications for treatment. For those with cognitive deficits, treatment could focus on deficient social-problem

solving skills. For those with cognitive distortions, treatment could focus on challenging biases.

Programmes can be individual or group based. Individual programmes include self-instructional training, anger-control training, training in self-governing behaviour, moral reasoning, perspective taking, problem solving and social skills training. Group programmes can be residential, in schools, communities or families. Programmes can combine one or more of the therapeutic techniques outlined above.

1.634 Efficacy of cognitive behavioural treatment strategies for adolescent externalising disorders

In a meta-analytic review of outcome trials, disappointing results for CBT for AD/HD were reported (Baer and Nietzel, 1991). Similarly, in a small study of children with CD in Australia, no differences were found between those who received CBT compared to those who received family therapy or eclectic therapy (Luk, Staiger, Mathai, Field, & Adler, 1998). However, there is a growing body of literature from large scale efficacy trials supporting the use of cognitive-behavioural techniques with CD (Southam-Gerow & Kendall, 1997). As CBT with CD can take a number of forms, the reported efficacy from a number of programmes will be outlined below.

When compared with supportive or psychodynamic psychotherapy, social-cognitive interventions with youths with CD at a day treatment programme were reported to be efficacious (Kendall, Reber *et al*, 1990). In a large treatment study of 250 subjects with CD, a programme of problem-solving skills training for children

together with child management training for their parents was evaluated. Child, parent and family functioning all improved over the course of therapy (Kazdin & Wassell, 2000). Specific skills training for children who have a deficit in active information processing was shown to be efficacious (Kendall, Stark & Adam, 1990). However, one study recommended a multi-modal programme for efficacy (Kazdin, 1993).

Sheldrick *et al* (2001) investigated whether the change in these families that was attributable to treatment was sufficiently large to be considered clinically significant. They therefore reviewed 30 randomised control treatment trials of children with CD. Three forms of CBT interventions, videotape modelling training, (an operant conditioning programme with parents), problem-solving skills training with children and parent-child interaction therapy, were all shown to be clinically significant.

One criticism of individual CBT is that it ignores the wider context in which the child functions. Family variables are not addressed nor the wider societal influences on the child. Southam-Gerow & Kendall (1997), argue for a wide range of interventions including parent management, interventions in schools and in the community. This could help to explain why CBT is not efficacious for all young people with CD. Kazdin (1995a) tried to predict which adolescents with CD would benefit from CBT. He found some support for the hypothesis that those with less dysfunction in terms of severity and breadth of child impairment and those with the least family dysfunction would benefit most.

Another explanation for inconsistent findings across studies could be the influence of co-morbidity. AD/HD has not been shown to respond well to CBT but many young

people with CD also have AD/HD which may decrease effect sizes in efficacy studies for CBT for CD. Similarly, in trials, assessment measures prior to treatment do not always include a self-report measure from the child. Internalising disorders may therefore be sabotaging the treatment.

1.64 Summary

In summary, the theory and techniques of CBT have been shown to be efficacious for adolescent populations with both internalising and externalising disorders with the exception of AD/HD. Adolescents have also been shown to make cognitive errors, however, the evidence for specificity of these according to diagnosis has not been unequivocal.

1.7 POTENTIAL OF THIS STUDY

CD is a complex disorder with many manifestations and considerable co-morbidity with other psychological disorders. The long-term outcomes for this group are severe. It is therefore an important service issue to assess the difficulties experienced by the young people with CD in Grampian in order to design the most appropriate treatment package for them. This study therefore aims to investigate the prevalence of co-morbid psychological problems in a local population of adolescents with CD.

The body of literature supporting CBT for CD is increasing. Recent research supports the view that the condition has some cognitive features in common with internalising disorders (Leung and Wong, 1998). It would seem a logical progression

to hypothesize then, that young people with CD might benefit from similar treatment approaches to their peers with anxiety or depressive disorders. If CBT is efficacious in young people who manifest certain behaviours then it is important to investigate for them in our population of adolescents. This study aims to investigate some of the differences in cognitive style between adolescents with CD alone and those with additional internalising disorders.

1.8 HYPOTHESES & QUESTIONS

1.81 Hypotheses

This study will test four hypotheses, these are whether:

- depression correlates significantly with Children's Negative Cognitive Errors Questionnaire (CNCEQ) total score
- depression correlates significantly with selective abstraction and overgeneralisation scores
- generalised anxiety disorder correlates significantly with catastrophisation and personalisation scores
- adolescents who have internalising disorders make significantly more cognitive errors than those with externalising disorders alone

1.82 Question

In addition, the study aims to address the following question:

How does the prevalence rate for conduct disorder, anxiety disorders and depression in this sample compare with those reported in community and clinic samples of adolescents?

2. METHOD

2.1 PREFACE

This chapter describes a number of issues relating to the design and methods of this study. These are the:

- design of the study
- participants
- recruitment of the participants
- assessment measures
- procedure
- statistical analysis

2.2 DESIGN OF THE STUDY

The study has two parts. The first is an epidemiological study of the prevalence of psychological disorders amongst adolescents in Oakbank residential school in Aberdeen. The second is an investigation into the cognitive style of these young people.

2.3 PARTICIPANTS

All participants were pupils aged between 11 and 16 attending Oakbank School. Approximately 40 pupils are enrolled at the school at any one time. At the time that this study took place, the ratio of males to females was 3:1. All pupils were eligible to participate in the study.

Pupils join this school when neither their home nor school placement can be sustained due to the child's involvement in behaviours such as theft, aggression and truancy. Although pupils are not formally assessed by a mental health professional on admission, it is probable that they would meet the criteria for either conduct disorder or oppositional defiant disorder. On joining the school, pupils are allocated to one of four residential units according to their perceived support needs. About half of the pupils live in the two mainstream units, about a quarter have additional support and the remaining pupils live in the close support unit.

2.4 RECRUITMENT OF PARTICIPANTS

The researcher briefed the school's teaching staff about the aims and procedures of the study. The teachers then gave the pupils an information sheet about the study during the weekly tutor group meeting (see Appendix A). The teachers read this to them, explaining further anything that was unclear. They assured pupils that their responses were entirely confidential except in the event that the researcher considered them to be a danger to themselves or others. In these circumstances, the community psychiatric nurse attached to the school would be advised of the researcher's concerns. Pupils were also advised that they could drop out of the study at any point with no adverse consequences.

The teacher then invited pupils to participate in the project. Those who wished to participate were given a consent form to sign (see Appendix B). Consent to participate was also obtained from the head teacher who acts as the children's guardian.

The researcher was not present at the tutor group meeting as this may have constituted pressure on the pupils to participate. However, she was in the building in order to answer any queries that the pupils or tutors may have had.

2.5 ASSESSMENT MEASURES

This section describes the nature, scoring procedures and the psychometric properties of the three assessment measures used in this study which can be found in Appendices C, D and E. These were:

- The Strengths and Difficulties Questionnaire (Goodman, 1999)
- The Development and Well-being Assessment (Meltzer, Gatward, Goodman & Ford, 2000)
- The Children's Negative Cognitive Errors Questionnaire (Leitenberg *et al*, 1986).

The Strengths and Difficulties Questionnaire (SDQ) and the Development and Well-being Assessment (DAWBA) are a screening questionnaire and an interview schedule respectively. They were used to assess the prevalence of psychological problems in this population. The Children's Negative Cognitive Errors Questionnaire (CNCEQ) is a questionnaire in the form of 24 vignettes, which was used to assess cognitive errors.

2.51 The Strengths and Difficulties Questionnaire

The SDQ is a 25 item questionnaire devised by researchers at the Institute of Psychiatry. In this study, the SDQ was used as a screening checklist which is a

quick and easy way to screen for psychological difficulties prior to detailed diagnostic interviews. However, it can also be used as a measure of psychopathology or as an audit tool.

The 11-16 self-report version was designed for use with adolescents aged between 11 and 16. It is divided into five sub-scales with five questions relating to each sub-scale. These sub-scales are:

- emotional symptoms
- conduct problems
- hyperactivity-inattention
- peer problems
- pro-social behaviour

Each of the 25 questions requires the respondent to make a choice from a three point adjectival scale. These choices are "not true", "somewhat true" or "certainly true". Responses are then assigned a score of 0,1 or 2. This results in a score out of ten for each of the five sub-scales. Scores from the first four of the sub-scales are summed to give a total difficulties score out of 40.

The authors of the measures relate scores on the SDQ to psychological need. The measure has therefore been constructed so that approximately 80% of the population aged between 11 and 16 should score between 0 and 15 for total difficulties and should be classified as having low need. A further 10% of this population should have a total difficulties score between 16 and 19 and would be

categorised as having some need. The final 10% who achieve between 20 and 40 for total difficulties would be classed as having high need.

In addition, the fifth scale – pro-social behaviour, produces a score out of ten. Those children whose self-reported pro-social behaviour score lies between 0 and 4 would be classified as having high need, those with scores of 5 would be regarded as having some need and those with scores between 6 and 10 would be considered to have low need.

The researcher used the responses from the SDQ to influence which sections of the DAWBA were to be completed during the ensuing structured interview.

The psychometric properties of the SDQ had been evaluated using a community sample of 10 000 children all of whom underwent structured psychiatric assessments (Goodman, 2001). Specificity and sensitivity are the most important psychometric features of a screening questionnaire. When the SDQ was completed by multiple informants, it was able to identify young people with a psychiatric diagnosis with a specificity of 94.6% and a sensitivity of 63.3%. This means that about 95% of children with no disorder were correctly identified and the number of true positives was about 35% which is acceptable in an initial screening instrument which aims to screen out false negatives (Goodman, Ford, Simmons, Gatward & Meltzer, 2000). The questionnaire identified over 70% of those with conduct disorder, hyperactivity, depression and some anxiety disorders (Goodman, Meltzer & Bailey, 1998).

Reliability was assessed in three ways, via internal consistency, inter-rater reliability and test-retest reliability (Goodman, 2001). It is generally accepted that reliability should be at least 0.7 (Kline, 1993). At 0.8, the internal consistency of the SDQ was acceptable for total difficulties.

Inter-rater agreement was described as satisfactory (Goodman & Scott, 1999). All correlations between the different domains of the SDQ and the different raters were significant ($p<0.01$). Pearson correlations ranged from 0.21 to 0.48 but were often better than those reported for established measures such as the Child Behaviour Checklist or the Rutter Questionnaire in a meta analysis of screening questionnaires (Achenbach, McConaughy & Howell, 1987).

As re-testing was not carried out until 4-6 months after the initial testing, true changes in the children's mental state may have occurred. However, as the stability of diagnoses was satisfactory, test-retest reliability was also described as satisfactory (Goodman 2001). All correlations for stability were significant at the 1% level and ranged from 0.51 through to 0.74.

The predicted five factor structure of the SDQ was confirmed in a sample of 10,483 British children (Goodman, 2001). The internalising and externalising scales were relatively uncontaminated by each other. This is particularly important in a study of this type. This is because internalising and externalising disorders need to be discriminated so that cognitive errors can be associated with specific disorders.

In summary, the SDQ is a recently developed measure, which was designed to assess adolescent difficulties. It has good specificity and adequate sensitivity and

has a clear factor structure. It is therefore an appropriate tool to screen for externalising and internalising disorders in a sample of British adolescents with conduct disorder.

2.52 The Development and Well-being Assessment

The DAWBA was developed for a national epidemiological study in 2000 (Meltzer *et al*, 2000). Symptom descriptions and time frames are consistent with DSM-IV criteria. It was developed in conjunction with the SDQ which facilitates the omission of irrelevant sections of the interview by use of skip rules. It therefore only takes about 30 minutes to administer.

Many researchers appreciate the necessity of using a structured standardised interview when assessing for presence of disorders.

"It is now widely accepted that to achieve reliable diagnoses in psychiatric research it is necessary to use standardised interview techniques" (Harrington, Hill, Rutter, Fudge, Zoccolillo & Weissman, 1988).

Despite the time consuming and therefore expensive nature of face-to-face interviews, their advantages are numerous. These include knowing that participants made the responses personally, reducing the number of omitted questions and providing the opportunity to clarify questions and instructions. It also enables the researcher to absorb qualitative data such as whether the participant seemed bored or showed poor concentration and allows more open questions for gaining clearer or richer information. Interviews also facilitate the use of skip patterns. Instructions

for these can be complex and the presence of a researcher increases compliance (Streiner & Norman, 1989). As accuracy of information and response rates were considered to be important in this study, face to face interviews were selected for information gathering.

The DAWBA has 12 sections, each pertaining to a disorder described in DSM-IV. The first question in each section is a screening question. If a subject gives a negative response to this screening question and scored below the 80th percentile for the corresponding sub-scale of the SDQ, then this section can then be omitted. Those participants who scored above the 80th percentile for that particular sub-scale of the SDQ or who answer the screening question positively, would be asked the remainder of the questions in the section. By the end of each section, a conclusion can be reached as to whether or not the subject meets the criteria for that particular disorder.

The properties of this measure were investigated in a study of 39 adolescent clinic attenders and 491 community controls (Goodman *et al*, 2000). The DAWBA was able to discriminate satisfactorily between the two groups. They made at least one diagnosis in 92% of the clinic sample but only 11 % of the community sample received any diagnosis. This corresponds to a minimum estimate of 89% specificity in the community sample and 92% sensitivity in the clinic sample. This means that those with a diagnosis are nearly always identified and those without are not usually included incorrectly.

Evidence for the validity of the DAWBA comes from three findings from one study (Goodman, 2000). First, there were substantially higher rates of disorders in the

clinic sample than in the community sample. Second, those with a diagnosis had markedly different characteristics from those without a diagnosis. Third, the responses of the participants from the clinic sample corresponded with details in their case notes and SDQ responses.

In summary, the DAWBA has all of the benefits of a structured questionnaire whilst remaining quick to administer. It is a recently developed measure, designed to complement current diagnostic criteria for adolescents. Unfortunately, data on its reliability are not yet available however, the research into its psychometric properties indicate that it is a valid and sensitive measure.

2.53 The Children's Negative Cognitive Errors Questionnaire

The CNCEQ was developed in 1986 to measure children's thinking styles. As there are few measures designed for this purpose, it was modelled on the Cognitive Errors Questionnaire for adults (Lefebvre, 1981). It is composed of 24 questions divided into 4 sub-scales each relating to a type of cognitive error. These errors are catastrophising, personalising, selective abstraction and overgeneralising. Six questions pertain to each type of error.

Each question of the CNCEQ takes the form of a vignette describing a situation. The researcher reads out the vignette followed by a thought relating to the situation. The subject responds by choosing from the following five options, "almost exactly like I would think", "a lot like I would think", "somewhat like I would think", "only a little like I would think" or "not at all like I would think" according to the degree to which the subject endorses the thought.

Each choice is assigned a score between 1 and 5 according to a scoring key. This results in a score between 6 and 30 for each type of error and a total error score between 24 and 120. From a community sample of 637 children, the mean score for total cognitive distortions on the CNCEQ was 57 (Leitenberg *et al*, 1986). As the range of possible scores is from 24 to 120 it suggests that children do not usually make many cognitive errors.

Lefebvre subjected the four types of cognitive error to factor analysis and showed that they could be discriminated reliably. They had good internal consistency and test re-test and split-half reliability. Leitenberg and his colleagues therefore retained these categories for the CNCEQ. The reliability of the CNCEQ was tested on a sample of 143 children (Leitenberg *et al*, 1986). The internal consistency was shown to be good for all items at 0.89. However, for individual scales it was below 0.8, ranging from 0.60 to 0.71. Test re-test reliability for total error score was also lower than one would like at 0.65.

In summary, there are few measures available for assessing different types of cognitive error in young people. Although the CNCEQ has not demonstrated particularly good reliability, it has good factor structure and is therefore the best available measure for this purpose.

2.6 PROCEDURE

This section describes the assessment protocol that was followed with each subject.

Participants filled out the SDQ at their tutor group meetings. Completed questionnaires were placed in sealed envelopes and returned to the researcher. The deputy head teacher then arranged an hour long individual appointment with the researcher for each subject. These were held in a private room at the school during school hours. At the appointment, participants completed the DAWBA and the CNCEQ. Some participants preferred two half hour appointments to complete the assessments.

Steps were taken to maximise the participation of pupils. The deputy head teacher who has a good relationship with many of the pupils approached them to participate and approached social work staff to escort pupils to the appointment to ensure that pupils did not forget to attend. Interviews took place in school within school hours and pupils were allowed to miss lessons to attend. Participants were advised that they could leave the interview at any time but that they would have to return to class if they left. The atmosphere was relaxed and informal in the room. This may have encouraged pupils to return for the second part of their interview if they did not complete it the first time.

The researcher scored all three measures according to the procedure described below and entered participants' scores from the questionnaires and the findings from the interview into a database.

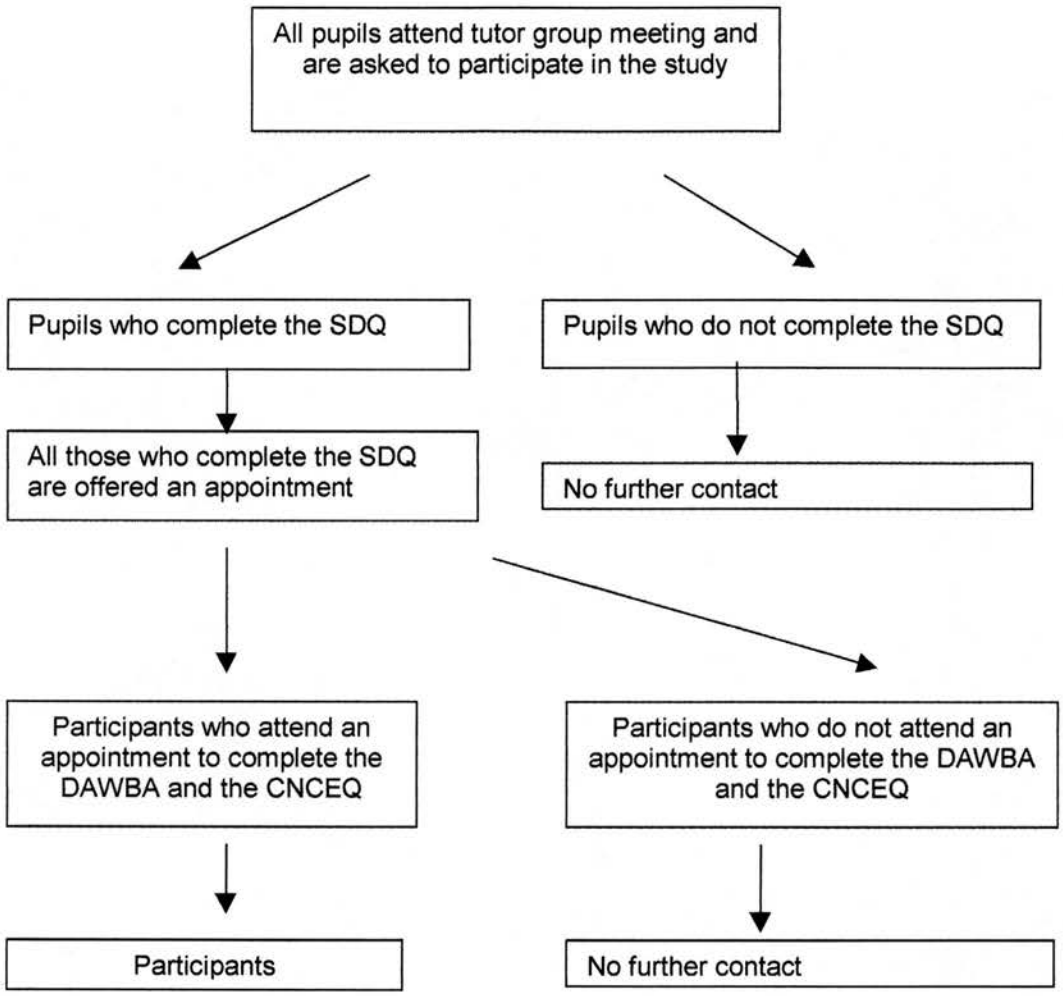


Figure 6. A flow diagram of the study procedure

2.7 STATISTICAL ANALYSIS

This section describes the statistical methods used to analyse the data in order to address the hypotheses and questions detailed in section 1.8.

The questions relating to prevalence of psychological disorders were analysed using simple descriptive statistics. They were operationalised by calculating the proportion of pupils meeting the criteria for each diagnosis of the DAWBA. The results of the statistics relating to these questions are reported in sections 3.41 and 3.42.

The first three hypotheses related to whether diagnostic categories identified by the DAWBA predicted scores on the CNCEQ. These hypotheses were tested using multiple regression models to investigate whether the independent variables do predict the dependent variables and what proportion of the variance can be attributed to each independent variable. That is, which diagnoses from the DAWBA predicted elevated CNCEQ scores. In addition, this procedure was used to investigate whether particular disorders were related to specific cognitive errors. The results of these analyses are shown in sections 3.62. The final hypothesis relating to whether adolescents with externalising disorders make significantly more cognitive errors than those with additional internalising disorders was tested by running a one-way ANOVA to illustrate differences between means for the two groups.

This process was facilitated by use of the Statistics Package for the Social Sciences (SPSS) version 10. All results are reported in chapter 3.

3. RESULTS

3.1 PREFACE

The purpose of this chapter is to detail the results from this study. Demographic details of the sample, descriptive statistics, exploratory investigations and inferential statistics are presented under appropriate headings.

3.2 RESPONSE RATE

Of the 40 pupils enrolled at Oakbank School, 28 (70%) completed the SDQ screening questionnaire. Of these, 22 (79%) attended an interview to complete the DAWBA and the CNCEQ. This constituted 55% of the total population. Two sets of data were incomplete and were therefore excluded. In summary, 20 sets of data, 50% of the possible sample, were included in the statistical analysis.

3.3 DEMOGRAPHIC CHARACTERISTICS OF THE SAMPLE

The 20 participants who supplied full sets of data came from all four residential units at Oakbank. Twelve (60%) came from the two mainstream units, six (30%) came from the additional support unit and two (10%) came from the close support unit. The two excluded sets of data had come from the close support unit.

Table 1 Descriptive statistics for age and gender of the sample

Gender	*n*	Minimum	Maximum	*M*	Mdn
Male	14 (70%)	11 years 10 months	16 years 3 months	14 years 3 months	15 years
Female	6 (7 30%)	12 years 8 months	16 years 3 months	13 years	15 years
Together	20 (100%)	11years 10 months	16 years 3 months	13 years 4 months	14 years

3.4 DESCRIPTIVE STATISTICS

3.41 Strengths and Difficulties Questionnaire

Table 2 Descriptive statistics for the Strengths and Difficulties Questionnaire

Sub-scale	*N*	Minimum	Maximum	*M*	*SD*
Emotional Symptoms	28	0	8	3.00	1.87
Conduct Problems	28	1	8	4.14	2.17
Hyperactivity Score	28	1	10	5.11	2.54
Peer Problems	28	0	9	2.89	2.06
Peer Problems	28	0	9	2.89	2.06
Prosocial Behaviour	28	3	10	6.39	2.10
Total Difficulties	28	4	26	15.14	5.48

Of the 28 participants who completed the SDQ, 16 (57%) reported low levels of symptoms, six (21%) reported borderline levels and six (21%) reported high levels. Figure 7 illustrates this distribution.

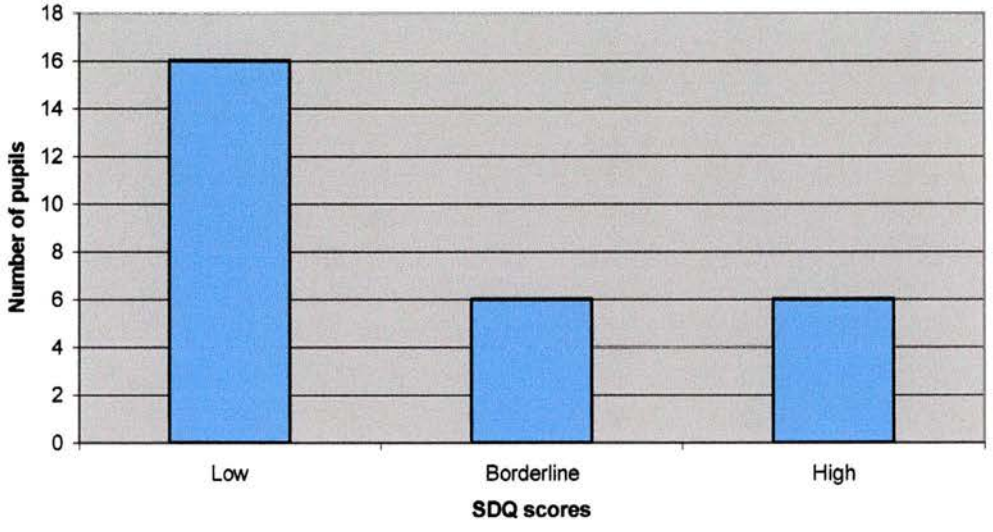


Figure 7 Distribution of SDQ total difficulties score

Of those who completed the SDQ, two (7%) reported borderline or high levels of emotional symptoms, 15 (54%) reported borderline or high levels for conduct problems, 13 (46%) reported borderline or high levels for hyperactivity and inattention, eight reported borderline or high levels for peer problems and eleven (39%) reported borderline or high levels for pro-social behaviour. This distribution is illustrated in Figure 8.

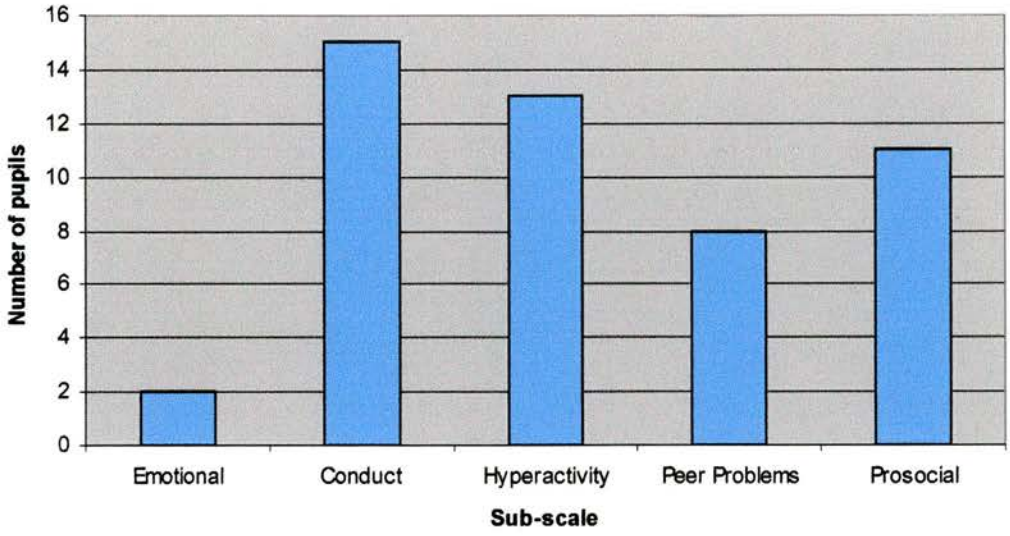


Figure 8 Distribution of pupils scoring borderline and high scores for the sub-scales of the SDQ

An independent samples t-test showed that there were no significant differences between means for the two genders for total difficulties score (t=-0.90, df=26, NS).

3.42 Development and Well-being Assessment

Figure 9 illustrates the number of pupils who met the DAWBA criteria for each problem. Of the 20 pupils who completed the DAWBA, none met the criteria for OCD. Three (15%) met the criteria for specific phobia, social phobia, generalised anxiety, panic/agoraphobia, irritability, deliberate self-harm and less common problems. As will be shown in Table 3, these were not necessarily the same pupils for each problem. Four (20%) met the criteria for depression and loss of interest and five (25%) met the criteria for PTSD. Seven (35%) met the criteria for attention/concentration and separation anxiety. All pupils (100%) met the criteria for troublesome behaviour and trouble with the police.

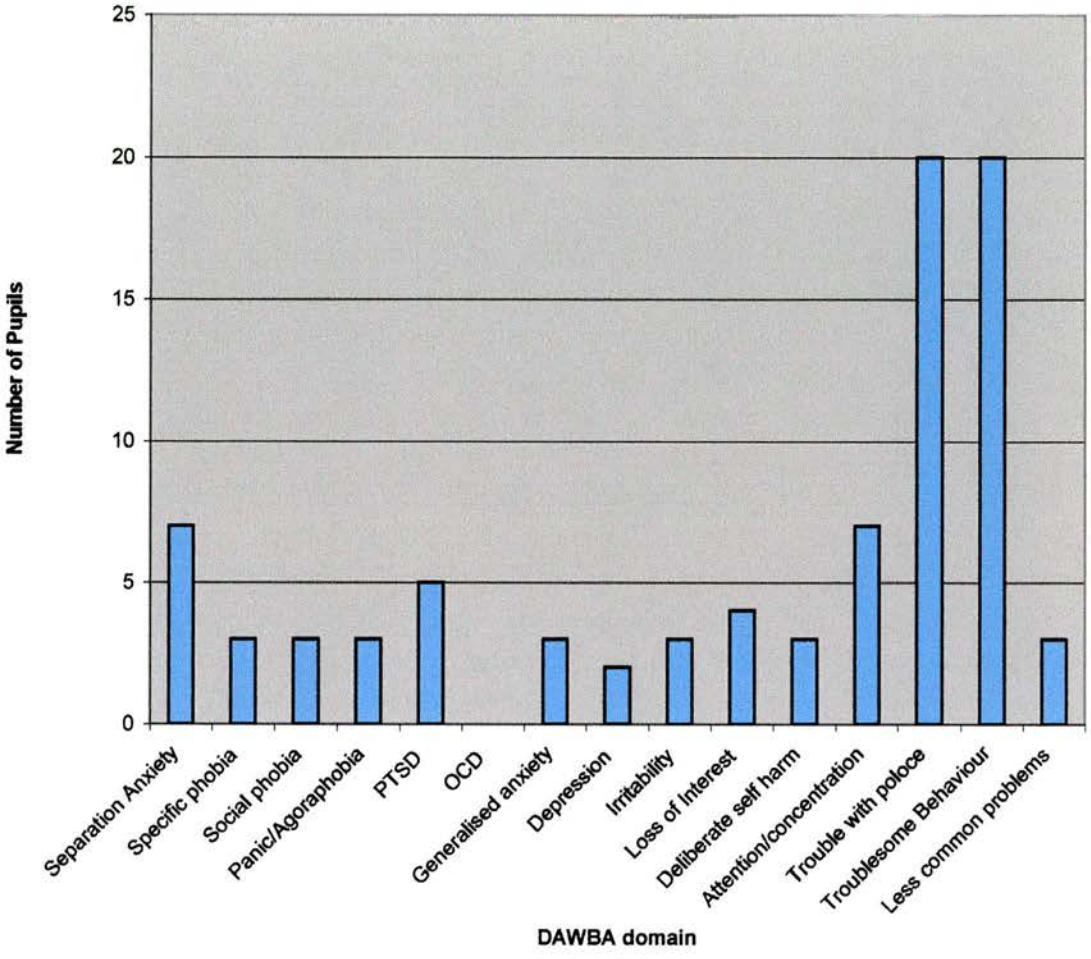


Figure 9 Distribution of pupils meeting the criteria for DAWBA domains

All of those who completed the DAWBA reported symptoms that met the criteria for at least two problems. Four (20%) reported two difficulties, five (25%) reported three, six (30%) reported four, one (5%) reported five, two (10%) reported six and two (10%) reported seven or more problems. This distribution is illustrated in Figure 10.

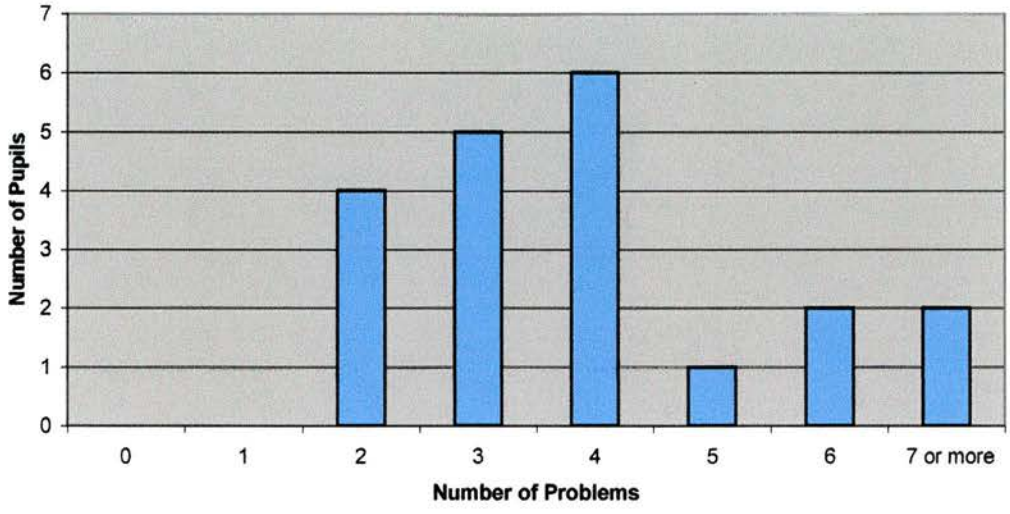


Figure 10 Distribution of total number of DAWBA difficulties per subject

Ten (50%) participants received no anxiety label, three (15%) received one, three (15%) received two, two (10%) reported three, one (5%) received four and one (5%) received five. This distribution is illustrated in Figure 11.

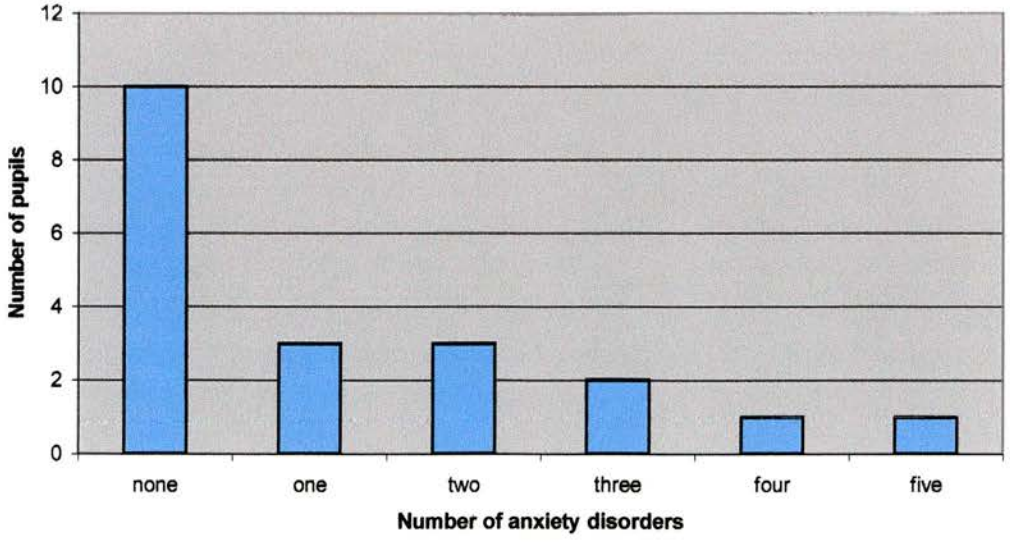


Figure 11 Distribution of the number of DAWBA anxiety difficulties per pupil

Figure 12 illustrates the frequency of reported depression, loss of interest, irritability and deliberate self harm. Of those who completed the DAWBA, 14 (70%) reported none of these depressive symptoms, three (15%) reported one depressive feature, one (5%) reported two depressive symptoms, one (5%) reported three depressive symptoms and one (5%) reported four depressive symptoms.

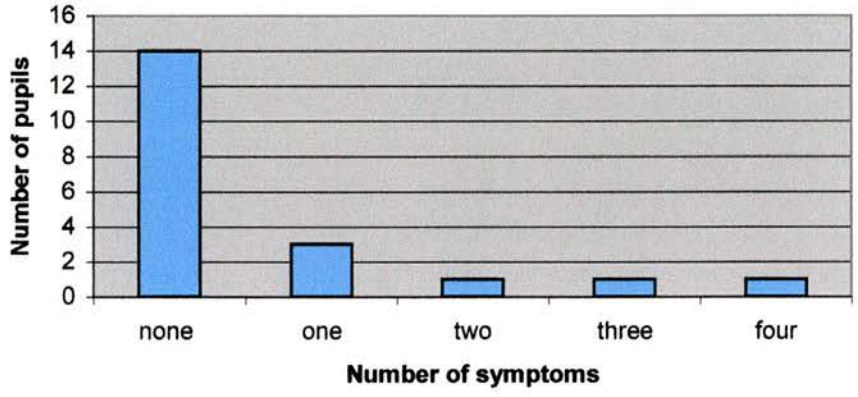


Figure 12 Distribution of the number of DAWBA depressive symptoms per pupil

All participants who completed the DAWBA received at least one externalising label. In addition, 13 (65%) reported two externalising difficulties and seven (35%) reported three externalising difficulties. This distribution is illustrated in Figure 13.

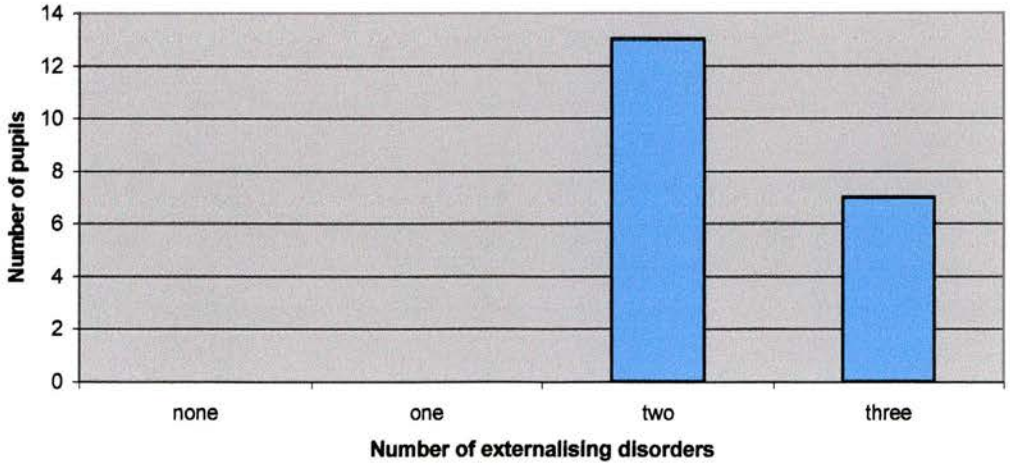


Figure 13 Distribution of the number of DAWBA externalising disorders per pupil

Table 3 Frequency of co-occurrence between DAWBA difficulties

	Separation Anxiety	Specific Phobia	Social Phobia	Panic / Agoraphobia	PTSD	OCD	Generalised Anxiety	Depression	Irritability	Loss of Interest	Deliberate Self Harm	Attention/Concentration	Troublesome	Trouble with the Police	Less Common
Separation Anxiety															
Specific Phobia	2														
Social Phobia	1	2													
Panic/Agoraphobia	2	2	2												
PTSD	2	2	2	1											
OCD	0	0	0	0	0										
Generalised Anxiety	2	1	1	2	1	0									
Depression	0	1	2	1	2	0	1								
Irritability	1	1	1	2	1	0	2	1							
Loss of Interest	0	1	2	1	3	0	1	2	2						
Deliberate Self Harm	0	1	2	1	2	0	1	2	1	2					
Attention/Concentration	2	1	1	0	2	0	0	1	0	2	1				
Troublesome Behaviour	7	3	3	3	5	0	3	2	3	4	3	7			
Trouble with Police	7	3	3	3	5	0	3	2	3	4	3	7	20		
Less Common Problems	0	1	1	1	1	0	1	1	1	1	1	1	3	3	

Table 3 illustrates the number of times each DAWBA difficulty co-occurs with every other type of difficulty.

3.43 The Children's Negative Cognitive Errors Questionnaire

Table four summarises the measures of central tendency and range for the four cognitive errors and for total number of errors.

Table 4 Descriptive statistics for each type of error made by pupils.

Sub-scale	*N*	Minimum	Maximum	*M*	*SD*
Catastrophising	20	6	17	10.05	3.99
Personalisation	20	6	19	11.05	4.21
Selective Abstraction	20	6	20	11.85	4.31
Overgeneralisation	20	6	18	9.65	3.30
Total Cognitive Errors	20	25	69	42.60	12.99

Table 5 Descriptive statistics for total number of errors of those with an externalising disorder alone and those with both an internalising and an externalising disorder

Types of disorder	N	Minimum	Maximum	*M*	*SD*
Internalising also	20	25	69	43.67	15.92
Externalising only	20	26	52	41.00	7.39

An independent samples t-test showed that there were no significant differences between means for the two genders for total errors score (t=0.96, df=18, NS).

3.5 EXPLORATORY DATA ANALYSES

This section will report the results from the exploratory analysis of the data pertaining to the SDQ, DAWBA and CNCEQ. This includes boxplots, histograms, scatterplots and correlation matrices.

3.51 Distribution of the data

The variables from the SDQ and the CNCEQ were checked for normality using histograms. All variables were found to be approximately normally distributed except for the peer problems sub-scale of the SDQ and the overgeneralisation sub-scale of the CNCEQ (see Figures 14 and 15). Within this study, data was presumed to be within acceptable limits for the use of parametric statistics if measures of skewness and kurtosis fell within the range of –1.00 and +1.00. Peer problems had a kurtosis value of 1.476 and overgeneralisation had a kurtosis value of 1.692 and a skewness value of 1.264.

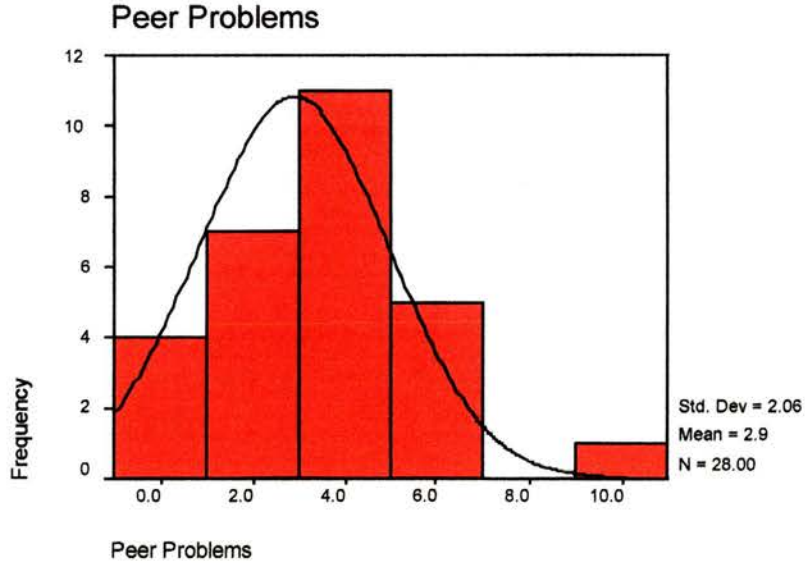


Figure 14 Histogram with normal curve showing the distribution of peer problems

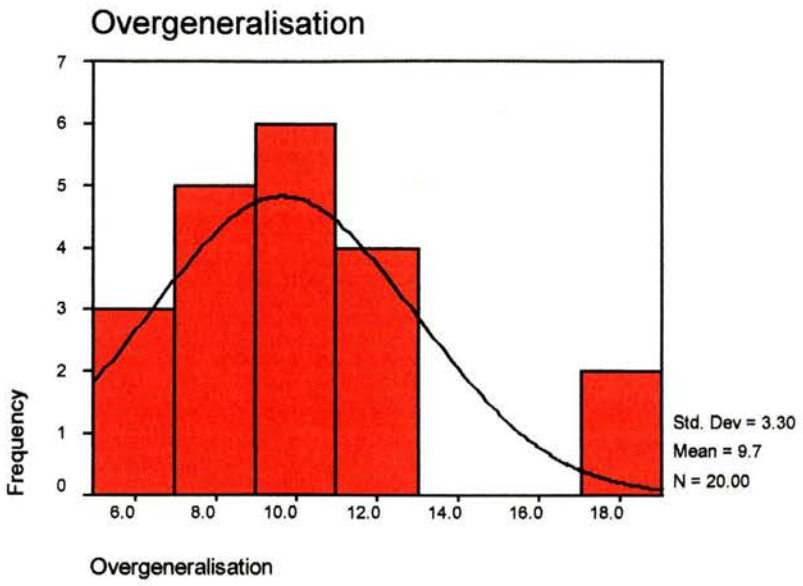


Figure 15 Histogram with normal curve showing the distribution of overgeneralisation

By use of boxplots (see Figure 16), one outlier was identified in the peer problems sub-scale of the SDQ and two outliers were apparent for the sub-scale overgeneralisation of the CNCEQ (see Figure 17).

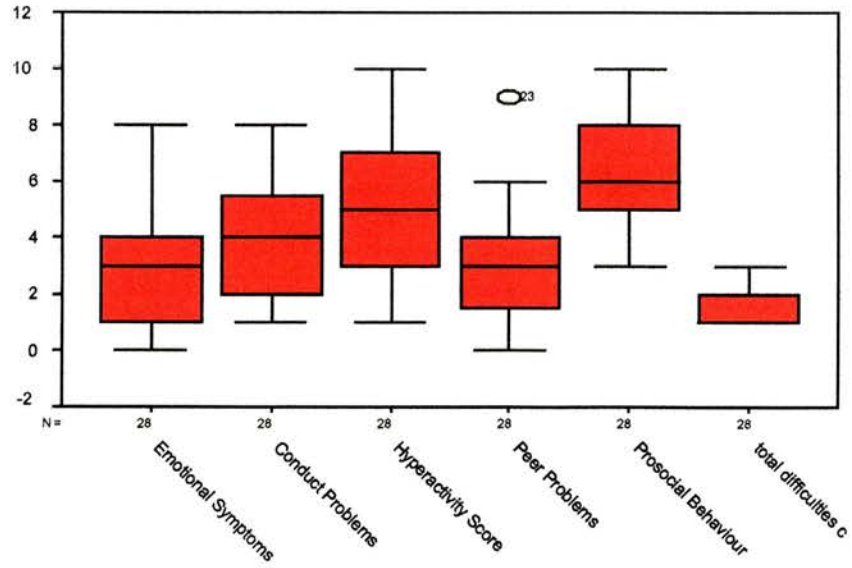


Figure 16 Distribution for the five sub-scales and total difficulties score of the SDQ

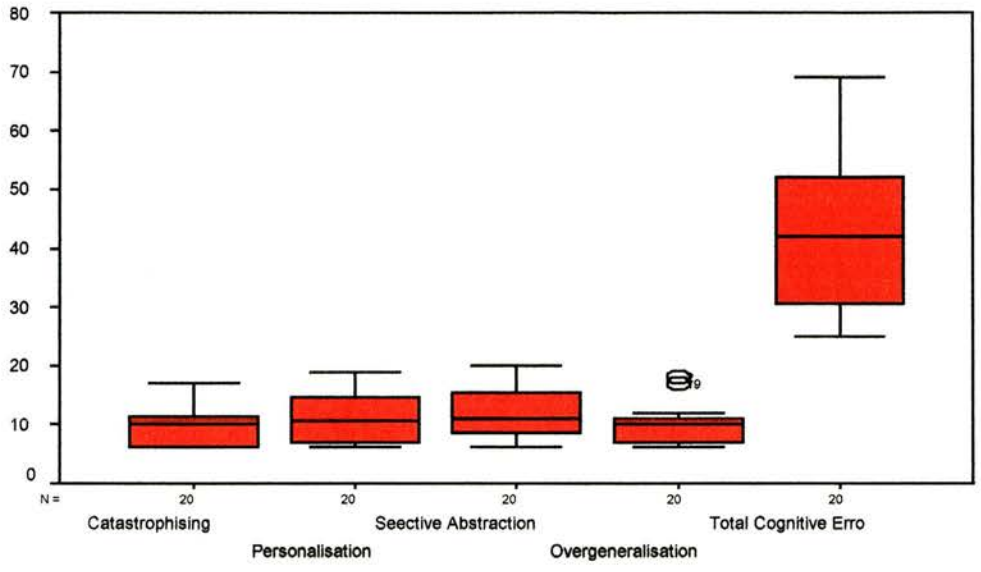


Figure 17 Distribution of the four sub-scales and total errors score of the CNCEQ

The outliers identified by the boxplots were excluded from the analysis. Peer problems then had a kurtosis value of –0.688 which was acceptable. Overgeneralisation had an acceptable skewness value of –0.95 but had a kurtosis value of –1.528. This data was therefore transformed instead using logarithms prior to the application of inferential statistics. The new kurtosis value for overgeneralisation was –0.07 and the new skewness value was 0.512 which was acceptable.

All of the other variables from the SDQ and CNCEQ had skewness and kurtosis values within acceptable limits. Inspection of the scatterplots between each pair of variables showed no obvious homoscedasticity or non-linear relationships. This was confirmed by running a regression analysis and plotting the residuals. These were evenly distributed indicating that the assumption of normality had probably been met.

3.52 Correlations between the variables

In this section the relationships among the SDQ, DAWBA and CNCEQ are discussed. Correlation coefficients were calculated using Kendall's Tau as dichotomous variables were involved. The aim of this procedure was to indicate which variables were related to each other prior to administering inferential statistics.

3.521 Correlations between the Strengths and Difficulties Questionnaire and the Children's Negative Cognitive Errors Questionnaire

From analyses of scatterplots, it appeared that the scores for the individual sub-scales and the total score of the SDQ did not correlate well with score for each individual error or with total error score from the CNCEQ. This finding was borne out by analysis of the correlation matrix (see appendix F). SDQ sub-scales and total difficulties score were not significantly related to any cognitive error or to total number of cognitive errors.

3.522 Correlations between the Strengths and Difficulties Questionnaire and the Development and Well-being Assessment

The correlation matrix (see appendix G) showed that score for emotional symptoms on the SDQ correlated significantly with specific phobia (τ = *-0.496, p<0.05),* social phobia (τ *=-0.575, p<0.01)*, panic/agoraphobia (τ *=–0.406, p<0.05)* and depression (τ *=-0.430, p<0.05)* from the DAWBA. Score for hyperactivity correlated significantly with depression (τ *=-0.456, p< 0.05)* and with social phobia (τ *=-0.511, p<0.05).* However, score for conduct problems, pro-social behaviour and peer problems did not correlate significantly with any DAWBA diagnosis. Total difficulties score

correlated with social phobia (τ =-0.531, p< 0.01) and depression (τ =-0.396, p< 0.05).

3.523 *Correlations between the Development and Well-being Assessment and the CNCEQ*

From the correlation matrix (see appendix H) none of the individual difficulties of the DAWBA correlated significantly with any of the individual cognitive errors or with total number of cognitive errors from the CNCEQ.

3.524 *Co-linearity between variables*

The total difficulties score of the SDQ was entered into the regression analyses rather than the five sub-scales to avoid singularity. Depression and PTSD were entered into the same regression analysis despite showing some relationship in the correlation matrix. This was because depression was hypothesised to be the best predictor of total error score and overgeneralisation, but PTSD was indicated as the strongest predictor in the correlation matrix. No other independent variables entered into the regression analyses were significantly correlated with each other.

3.6 INFERENTIAL STATISTICS

3.61 One way ANOVA to illustrate the difference between means on the CNCEQ for those with an externalising disorder alone and those with an additional internalising disorder.

There was no significant difference between the means of those who have an externalising disorder alone and those who have an additional internalising disorder

for any of the cognitive errors or the total error score. This result is illustrated in Table 12.

Table 12 Summary table for five one-way ANOVAs comparing means for cognitive errors for pupils with externalising disorders alone to those with an additional internalising disorder

Sources of Variance	***df***	***SS***	***MS***	***F***	***p***
Catastrophising					
Between Groups	1	3.333	3.333E	0.002	0 .965
Within Groups	18	302.917	16.829		
Total	19	302.950			
Personalisation					
Between Groups	1	2.408	2.408	0.130	0.723
Within Groups	18	334.542	18.586		
Total	19	336.950			
Selective Abstraction					
Between Groups	1	1.633	1.63	0.084	0.776
Within Groups	18	350.917	19.495		
Total	19	352.550			
Overgeneralisation					
Between Groups	1	7.903	7.903	0.407	0.532
Within Groups	18	0.350	1.942		
Total	19	0.358			
Total Cognitive Errors					
Between Groups	1	34.133	34.133	0.194	0.665
Within Groups	18	3170.667	176.148		
Total	19	3204.800			

4. DISCUSSION

4.1 PREFACE

This chapter is divided into three broad sections. These are:

- prevalence and co-morbidity rates
- cognitive errors
- strengths and weaknesses of the study

Within these sections, the results of the study are discussed in relation to the hypotheses and questions listed in chapter one and in relation to reports from current literature. In addition the strengths and weaknesses of the study are highlighted.

4.2 PREVALENCE AND CO-MORBIDITY RATES

This section discusses the prevalence and co-morbidity rates amongst subjects. Prevalence rates for this sample are usually compared with community samples whereas co-morbidity rates for this sample are usually compared with clinic or forensic samples of those with CD.

4.21 All diagnoses

In this sample, all participants met the criteria for at least one diagnosis using the DAWBA. This prevalence rate is much higher than that found by Meltzer *et al* (2000) in a community sample of adolescents using the same structured interview.

There is also considerable co-morbidity present in this sample. In addition to meeting the criteria for the two conduct related diagnoses, troublesome behaviour

and trouble with the police, 80% of participants met the criteria for a third mental health problem. This is considerably higher than some of the co-morbidity figures reported in the literature for adolescents with CD. For instance, in a recent community sample less than half (46%) of those with CD had a co-morbid mental health problem (Loeber, Burke *et al*, 2000). The co-morbidity rate for this sample is also higher than figures reported from some studies in forensic settings. For instance, in a recent sample of incarcerated adolescents with CD, just over half (56%) had a co-morbid diagnosis (Barriga *et al*, 2000).

However, the literature regarding co-morbidity with CD can be somewhat inconsistent. Other studies reported co-morbidity rates with CD that were comparable with the findings from this study. For instance, one recent study reported the average number of co-morbid disorders with CD as 2.2 (Sawyer *et al*, 2001). This is more consistent with the findings of the present study which reported that the average number of co-morbid diagnoses with troublesome behaviour and trouble with the police, was 1.9. Similarly, a second study reported that 25% of their sample of young people with CD had 3 or more concurrent diagnoses (Lambert *et al*, 2001). Five (25%) participants also reported three or more diagnoses in this study. These comparisons suggest that the co-morbidity rates for this sample are not elevated.

Although reported co-morbidity rates vary considerably in the literature making it difficult to compare the results from this study with similar studies, it remains that there is considerable co-morbidity in this population and that prevalence rates are high. These findings are not surprising in view of the difficulties the children have experienced. Most of the children interviewed had been at Oakbank a relatively short time, usually less than six months. Children are often admitted in a state of crisis when natural or foster families and schools can no longer cope with the

child's behaviour. They may have histories of neglect or abuse and their families of origin are often chaotic. In addition, a significant proportion of pupils have an organic disorder such as AD/HD which is also a risk factor for co-morbid disorders (Chang & Chuang, 2000). It is therefore unsurprising that pupils experience a number of psychological problems in their first six months away from home.

4.22 Externalising disorders

At interview, all participants (100%) met the criteria for the two conduct related externalising disorders. This rate is much higher than those cited in a recent review of community studies of adolescents which varied between 2.6 and 15.8% (Loeber & Stouthamer-Loeber, 1998). The high rates for this sample, are perhaps unsurprising in a population of young people of interest because of their conduct problems. They have been taken away from their homes and from mainstream school due to their behaviour. Using DSM-IV criteria reveals that 25% of the participants can be categorised as having mild CD (0-3 features), 35% have moderate CD (3-6 features) and 40% have severe CD (more than 6 features). The number of symptoms endorsed by the participants ranged from 3 to 12.

In this sample, about one third (35%) of participants also met diagnostic criteria for AD/HD. This prevalence rate is similar to those reported in community samples. For example, Jensen *et al* (2001) reported a prevalence rate of 29.5% and in a review of studies, Bird *et al* (1993) reported rates that varied between 23 and 35%. However, it is possible that the actual rate of those with AD/HD in the school is higher than reported. One of the sets of data that was excluded came from a participant who was unable sit still to complete the interview. It is a reasonable assumption that he had attentional difficulties and that some of the other pupils who

chose not to attend may have attentional problems and prefer to opt out of such situations.

When considering co-morbidity for AD/HD with CD, rates reported in the literature vary considerably again. For example, Angold *et al* (1999) reviewed 21 studies and reported a spread of co-morbidity rates from 25-67% for those with CD or ODD plus AD/HD. If co-morbidity rates are taken at the lower end of this range then it appears that all children with AD/HD also have conduct problems whereas if the other end of the range is accepted then only about half of those with AD/HD also have conduct problems. It is difficult to compare co-morbidity rates for externalising disorders in this sample to those in the general population however it remains that about a third of those sampled at Oakbank have significant attentional difficulties. An eighth (12.5%) of pupils had a diagnosis of AD/DH from the community mental health team at the time of the study and five participants were receiving stimulant medication. This may have reduced the number of participants reporting symptoms of AD/HD at interview.

4.23 Co-morbidity between externalising and internalising disorders

A high proportion (60%) of the sample reported co-morbid internalising disorders with CD. This is similar to the prevalence rate amongst incarcerated youths (Barriga *et al*, 2000) but is more than would be expected in community samples of those with CD (Lambert *et al*, 2001). This may be because our sample has more in common with a forensic sample as the authorities have assessed their difficulties to be sufficiently severe to require placement in a residential setting. The distribution of CD and AD/HD with internalising disorders is illustrated in Figure 18.

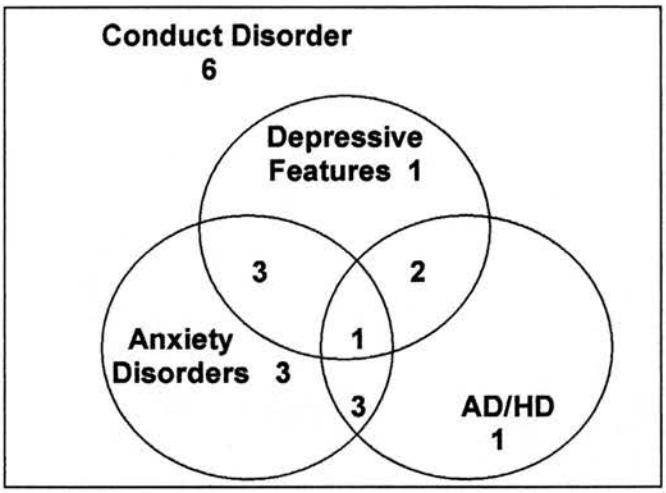


Figure 18 Venn diagram to illustrate the overlap between disorders in this sample

4.24 Internalising disorders

Three fifths (60%) of participants met the criteria for an internalising disorder at interview. This is markedly higher than the prevalence rate of 12.8% reported in a recent community sample of 4509 young people, also using structured interview methods (Sawyer *et al*, 2001).

Half of the sample met the criteria for at least one anxiety disorder. About one third (35%) of the young people met the criteria for more than one. This is considerably higher than the rate reported in a community sample using the same structured interview (Meltzer *et al*, 2000).

The prevalence rates for individual anxiety disorders in this study will be discussed below and compared with those reported in the literature.

No participant met the criteria for OCD in this study. This is consistent with a recent British survey of 10 438 children which reported that only 0.25% of participants met the diagnostic criteria for OCD (Heyman, Fombonne, Simmons, Ford, Meltzer, & Goodman, 2001). Three (15%) people met the criteria for generalised anxiety disorder, panic/agoraphobia, social phobia or specific phobia in this study. In a community sample of 716 young people, 7.8% of females and 2.2% of males had generalised anxiety disorder, 34% of females and 6% of males had social phobia and 32.1% of females and 12% of males had simple phobia (Pine *et al*, 2000). Panic/agoraphobia was not reported. The figures for generalised anxiety disorder are elevated in the current study whereas the figures for phobic disorders are somewhat lower in females but higher for males. The fact that this sample comprised mostly males explains why the overall rates were lower than for a female only sample. Nevertheless, it remains that the prevalence rate for anxiety disorders in this sample was elevated in comparison with males in the general population.

For co-morbidity, the rate of 50% in this sample is also higher than the of 26.8% for any anxiety disorder with CD or ODD reported by Bird *et al* (1993) despite this sample being composed mainly of males. In a clinic study of 55 female adolescents with CD the lifetime co-morbidity for phobic disorder was reported to be 45%, 16% for OCD and 4% for panic disorder (Clark, Smith, Neighbors, Skerlec & Randall, 1994). The rates for OCD were comparable to this sample and the rates for panic disorder were lower. Again, it could be argued that the rate for phobic disorders was particularly high because it was a female sample.

Qualitatively, it is not surprising that our sample met the criteria for anxiety disorders. As discussed earlier, these children are often in a period of adjustment with little support other than that provided by the state. Anxiety disorders are understandable sequelae of these changes. In addition, the participants often

reported stressful events pending, such as attending the children's panel or approaching the upper age limit for Oakbank, after which time they did not know where they would be living.

The high rate for separation anxiety (35%) in our population compares unfavourably with community rates (Cohen *et al*, 1993). It is perhaps an unsurprising finding however, as the children are living away from their families, sometimes in a completely different city several hours journey from home. In addition, they sometimes reported having experienced separations before, such as being taken into care or their parents going into hospital or prison.

A number of young people revealed at interview that something traumatic had happened to them in the past but that they preferred not to talk about it. Naturally, this section was omitted as it would be unethical to pursue this line of investigation. However, it suggests that the figure of 30% is an underestimation of post-traumatic symptoms in this group. In addition, a number of participants did report traumatic events such as being in a house fire or being run over by a car but did not report experiencing the symptoms of PTSD. Nevertheless, the rate of 30% for PTSD in this population is still much higher than in comparable community samples (Cuffe *et al*, 1998) and in a non-residential sample of young people with CD (Reebye *et al*, 2000). It is more comparable with a study by Steiner *et al* (1997), who reported that 31.7% of an incarcerated sample of young males met full DSM-IV criteria for PTSD.

There is some evidence that young people with CD and an additional anxiety disorder actually get into less trouble than those without a co-morbid anxiety disorder (Walker, Lahey, Russo, & Frick, Christ *et al,* 1991). It is suggested that this is because the neurobiological system thought to govern CD is acting in opposition to the system governing anxiety. Anxiety, particularly social anxiety, therefore

inhibits the aggressive behavioural response. This theory has been supported by reports that low scores for social anxiety have been shown to correlate with high scores for CD (Pine *et al*, 2000). It is difficult to corroborate this hypothesis from findings from this sample as all pupils had CD so correlations between the two disorders are not possible. However, three participants reported social phobia, a fairly high rate compared with community samples. In those three cases, social phobia clearly did not inhibit anti-social behaviour. There were also high levels of other anxiety disorders in this sample. It is possible that those whose behaviour was inhibited by anxiety do not commit aggressive acts and therefore do not get admitted to Oakbank. Another explanation for high levels of both anxiety and aggression in this sample is that the mitigating effect of anxiety may be attenuated in those with more severe forms of CD (Ollendick *et al*, 1999).

About one third (35%) of participants had at least one depressive feature. The DAWBA has four sub-scales that relate to depressive disorders. These are entitled depression, irritability, deliberate self-harm and loss of interest. These four sub-scales relate to individual diagnostic criteria of DSM-IV. It is therefore easier to meet the criteria for a depressive sub-scale of the DAWBA than DSM-IV criteria for a depressive disorder. Only three participants (15%) met the full criteria for depression on the DAWBA equivalent to DSM-IV specifications. This remains a high level in comparison with recent community studies nevertheless. For example, in an American study, the point prevalence rate for major depressive disorder in adolescents was 3.4% for girls and 2.0% for boys (Birmaher *et al*, 1996). However, it is a low rate in comparison with co-morbidity studies. Rates as high as 55.3% for any depressive disorder concurrent with CD or ODD have been reported (Bird *et al*, 1993). This is clearly higher than the 15% in this sample and the 35% for any of the four depressive features. One explanation for this is that in the literature, girls have higher rates of emotional disorders than boys. The fact that this sample comprised

boys predominantly, may explain the low rates of internalising disorders. However, although girls had a slightly higher mean total difficulties score than boys, the difference was not significant. Alternatively, the involvement of some pupils with the mental health team and counselling services may have resulted in reduced rates of depressive disorders.

The category of the DAWBA entitled Less Common Problems comprised only three questions. One pertained to eating disorders, one to tic disorder and the third to psychotic experiences. The three positive responses to this section all pertained to restriction of eating. It is not possible to estimate the prevalence of eating disorders in this population from a single question especially considering restriction of food intake could also be a sign of other disorders. For instance, it is listed in the DSM-IV criteria for depression. From such limited investigations, it is only possible to conclude that three people reported restriction of food intake. Consistent with reported higher rates of eating disorders and depression amongst women, it was usually females who reported this behaviour.

4.25 Summary

In summary, in our sample of young people the prevalence of CD is understandably elevated. However, rates for other externalising disorders such as AD/HD are not unduly high. The rate of internalising psychological problems is elevated when compared with community samples but is not atypical for a group of predominantly male adolescents with CD. The level of co-morbid anxiety disorders with CD was particularly high however and level of co-morbid depression was surprisingly low in comparison with clinic samples. Restriction of food intake was the only possible additional diagnosis among less commonly occurring disorders.

4.3 COGNITIVE ERRORS

Each hypothesis from chapter one will be discussed below in terms of results from this study and findings from the relevant literature. Possible explanations for the findings will also be presented.

4.31 Prediction of total cognitive errors by psychological disorders

The first hypothesis posited that depression would correlate significantly with CNCEQ total score. This hypothesis was rejected. The correlation co-efficient between depression and total cognitive errors was low. This finding that depression is not related to high levels of cognitive errors is contrary to findings in the literature. Children with depression have been shown to make significantly more errors than those without a depressive disorder (for example Leitenberg *et al*, 1986; Tems *et al*, 1993; Thurber *et al*, 1990). In the literature, the number of errors made has also been shown to increase with the severity of the disorder (Marton and Kutcher, 1995). The fact that journals tend to publish studies that report significant findings may help to explain why no papers were found supporting our findings that those with depressive disorders do not have higher levels of cognitive distortions than those without. Alternatively, those aspects of the design of this study that may have contributed to this insignificant result are discussed in section 4.4.

4.32 Relationship between specific cognitive errors and psychological disorders

The second hypothesis that depression would be significantly correlated with overgeneralisation and selective abstraction was not supported either. The correlation co-efficient between depression and overgeneralisation was very low.

This is contrary to the literature which suggests that depression is related to overgeneralisation (Messer, *et al*, 1994; Garber, Weiss & Shanley, 1993). The correlation co-efficient between depression and selective abstraction was small. These findings contradict reports that depression correlates with overgeneralisation and selective abstraction in children (Kendall, Stark & Adam, 1990).

The literature has always been somewhat mixed regarding whether cognitive errors are essential components of emotional disorders. Thurber et al, (1990) concluded that cognitive distortions are essential concomitants of depression. This opinion contrasts with the view of Marton and Kutcher (1995) who concluded that they were associated with more severe depression but were not present in all cases. If our sample had less severe forms of internalising disorders, it may explain in part why participants reported few errors but high rates of psychological problems.

If cognitive errors are not essential to depression it implies that depression causes cognitive errors rather than cognitive errors cause depression. This is supported by researchers who reported that cognitive distortions dissipate as depression is alleviated (for instance, Tems *et al,* 1993). However other researchers have proposed that the cognitive errors are present first (for example Mazur *et al*, 1999). From the analyses of researchers such as Weems *et al* (2001) it is apparent that cognitive errors are thought to predict psychological problems as they hypothesise for instance that selective abstraction predicts depression rather than depression predicts selective abstraction. However, the bulk of the literature that has been concerned with investigating which disorders predict which types of error (for example Epkins, 2001, Kempton *et al*, 1994; Leung & Wong, 1998).

A second explanation for these insignificant findings is related to prevalence rates. As there were only a small number of subjects in the some groups, it is unlikely that

the independent variable had the statistical power to significantly predict cognitive errors.

The third hypothesis, that generalised anxiety disorder would highly correlated with catastrophisation and personalisation, was also rejected. Generalised anxiety disorder did not correlate significantly with either catastrophisation or personalisation. The correlation co-efficient between generalised anxiety disorder and catastrophisation was low. In the exploratory analysis, catastrophising did not correlate well with any of the anxiety disorders. This is contrary to findings from recent research that showed that catastrophising was a significant predictor of anxiety disorders (Leitenberg *et al*, 1986). Similarly, the correlation co-efficient between generalised anxiety disorder and personalisation was low. These findings contradict reports from recent literature suggesting that anxiety sensitivity and manifest anxiety are associated with catastrophisation and personalisation (Weems, *et al*, 2001).

Differing diagnostic criteria may partly explain contradictory results. Different studies have used very different criteria. For instance, it is possible that the criteria used for anxiety sensitivity and manifest anxiety in Weems *et al*'s (2001) study are different from the DSM-IV criteria for generalised anxiety disorder used in this study. Also, as with depression, small groups of participants with particular disorders makes it unlikely that a statistical test can reveal significant results.

The only significant finding from this study was that PTSD was significantly correlated with selective abstraction. This has not been investigated extensively in the literature although internalising disorders generally have been shown to predict selective abstraction (Leung & Wong, 1998). This may also explain why PTSD approached significance for total number of cognitive errors. However, as total error

score is the sum of the four error scores, it is clearly also related to selective abstraction score. It is possible though, that internalising disorders predict errors generally rather than specifically.

4.33 Relationship between cognitive errors and internalising and externalising disorders

The final hypothesis posited that adolescents who have both internalising and externalising disorders would make significantly more cognitive errors than those with externalising disorders alone. This hypothesis was also rejected. It was established that there was no significant difference between means for the two groups. This contradicts evidence from the literature suggesting that that those with an additional internalising disorder are more likely to commit cognitive errors than those with an externalising disorder alone (Epkins, 2000). It is also contrary to evidence that internalising and externalising disorders can be differentiated on the basis of cognitive errors (Leung & Wong, 1998).

In this sample, the mean number of errors was very low, lower than would be expected in a non-clinical sample. As our sample had high rates of co-morbidity. this finding contradicts reports that young people with multiple disorders make more errors than those with no disorder or a single diagnosis (Barriga *et al*, 2000). It also goes some way to explaining why there was no significant difference between means for those with an externalising disorder and those with an additional externalising disorder. Those with CD and an additional disorder made very few errors which made it difficult to differentiate between this group and those with CD alone. The findings also undermine the theories that those with CD make cognitive errors (Barriga *et al*, 2000), that those with internalising disorders make errors

(Epkins, 2000) and that those with both types of disorder make the most errors (Kempton *et al*, 1994).

Whilst supporting the view that adolescents with emotional disorders make increased numbers of cognitive errors, Epkins (2000) expands the specificity theory to a broad band explanation. In this theory, all internalising disorders have errors specific to their disorder but also have cognitive distortions common to all internalising disorders. This would explain why internalising and externalising disorders have sometimes been distinguishable whilst the individual emotional disorders have not been. Epkins explains that this theory is intuitively sensible as anxiety and depressive disorders do have overlapping features and high rates of co-morbidity. It is similar to Weiss *et al*'s common features model of pathology and offers one explanation for some of the conflicting findings in the literature. Epkins concludes that cognitive errors are specific to internalising disorders as participants with externalising disorders alone did not differ from a control group whereas those with co-morbid internalising and externalising disorders made similar numbers of errors to those with an internalising disorder alone. If this were the case, then the low rate of depression would in part explain the low rate of errors. However, it does not explain why the 50% of participants with an anxiety disorder also made low levels of errors or why those with internalising and externalising disorders were indistinguishable.

It is also possible that the therapeutic environment provided by Oakbank is alleviating the mental health problems of these young people. The school has a community psychiatric nurse one day per week who feeds into the mental health team at Young People's Department at the local hospital. In addition, they have a counsellor and the ethos of the school is to support change rather than punish past

behaviour. This is one possible explanation for low rates of depression and few cognitive errors.

The low level of cognitive errors is in contrast to Crick and Dodge's (1994) theory that children with CD make judgements based on cognitive biases. It is possible that these children have the cognitive deficits which influence their decision making processes as Crick and Dodge also proposed. This fits in with high levels of externalising disorders but does not explain low levels of cognitive distortions in the presence of co-morbid internalising disorders.

4.34 Summary

In summary, psychological disorders were not associated with cognitive errors nor were individual disorders related specifically to particular cognitive distortions in this study. It was not possible to differentiate between those with an internalising disorder in addition to an externalising disorders on the basis of type or number of cognitive errors either. Some reasons for these findings may relate to common underlying cognitive processes or to severity levels among the participants. It seems likely that a number of other factors also contributed to the lack of significant results.

4. 4 STRENGTHS AND WEAKNESSES OF THE STUDY

This section considers factors relating to the design of the study that may have contributed to the results.

4.41 Sample size

Sample size has a considerable effect on results. With a sample size of only 20, the number of participants meeting the criteria for certain diagnoses was small. For example, there were only three people in the depression group. It is unlikely that a any inferential test will reach significance with such small numbers. In the case of PTSD, however, quite a high proportion of the sample met the required criteria (30%) and PTSD correlated with selective abstraction significantly and approached significance for total error score. If a larger sample had been surveyed, then more significant results may have been found. The studies cited in support of the theory that psychological disorders predict cognitive errors used much larger samples than was available to this author (for example, Leung & Poon, 2001; Weems *et al*, 2001).

4.42 Recruitment of subjects

Carrying out research with this kind of population can be problematic as conduct disorder is characterised by non-compliance and defiance of authority. It is therefore unsurprising that a number of pupils could not be encouraged to participate in the study. One of the excluded sets of data came from a participant who refused to answer questions. Staff deemed a second participant who had completed the screening questionnaire, not to be in a suitable frame of mind to attend an interview as he had committed several aggressive acts that week.

The timing of the study may also have affected the response rate. Fourteen of the pupils were in their fourth year of secondary school which is the last compulsory year of schooling. This year concludes with standard grade examinations. During the testing phase of the study, several pupils were in the process of taking these

tests and may have been preoccupied and less interested than usual in other activities. In addition, as the end of term approached, a number of pupils were involved in leisure activities scheduled for the last weeks of term. In light of these factors, the response rate of 70% for the screening questionnaire and 50% for the interviews was relatively successful. Larger numbers would have been useful for reasons outlined above. However, as the school has only about forty pupils on the roll, the maximum possible sample was limited.

It is possible that this population represents a skewed sample in terms of severity of difficulties. As 60% of participants came from the two mainstream units, it is possible that those who attended interviews may have been the least distressed pupils at the school and are therefore over represented in the sample. This is supported by the fact that the two excluded sets of data both came from the close support unit. Also, as only half of the total number of pupils produced valid sets of data it is difficult to generalise findings to the whole school and to similar populations. If the sample had been representative of all four units, then there may have been higher rates of disorders and of cognitive errors.

The sample was representative in terms of gender. The male to female ratio of the participants was similar to the overall proportions of the school. Although one quarter of the pupils on the school roll were female and just under a third of participants were female, when numbers are small the difference is only one or two pupils.

4.43 Measures

A number of issues relating to the psychometric measures used in this study are discussed below.

One question arising from the results section is whether the SDQ is truly an effective screening tool. Although its reported specificity is 94.6%, the number of pupils with significant difficulties as measured by the SDQ was low. This contradicts the findings from the DAWBA. It is possible that the DAWBA leads to over reporting but this is unlikely as it is consistent with DSM-IV diagnostic criteria and these results were more in line with published prevalence rates. The two measures did not correlate well on many dimensions despite being designed as a package. Of the sub-scales that did correlate significantly, the highest co-efficient was 0.476 between emotional symptoms on the SDQ and depression on the DAWBA. This is still not particularly high.

Internal consistency for the SDQ ranged from 0.41 through to 0.67 for the various sub-scales for the young people's self report version of the SDQ. These relatively low coefficients may reflect the difficulty of the task of screening this population. For instance, five questions are unlikely to be able to screen for all emotional difficulties with a high degree of success. Essentially, internal consistency was only good when the scores were considered in terms of total difficulties.

In addition, the range of scores on the SDQ did not cover the whole spectrum of possible scores. They are concentrated at the bottom end of the scale which is unusual in a clinical sample. Out of a possible total score of 40, the highest score was 26. Likewise, for the emotional symptoms sub-scale the mean score was three out of ten and the standard deviation was 1.87. Only 42% of pupils indicated borderline or high levels of emotional distress, which is inconsistent with the high rate of internalising disorders identified by the DAWBA and the literature regarding similar populations. This again raises questions about the ability of the SDQ to identify pathology.

Alternative explanations for the failure of the SDQ to identify pathology, relate to the reliability of study designs that rely on youth self-report. It has been described as the least useful source of behaviour rating for hyperactivity, inattention and oppositional behaviours (Youngstrom, Loeber & Stouthamer-Loeber, 2000). Pupils may not have wanted to note down their true responses in tutor group in case a fellow pupil saw their responses. It is also possible that this sample under-reported their difficulties on the questionnaire whereas under more specific questioning they revealed more symptoms. In addition, participants may minimise or exaggerate their responses in certain circumstances. For instance, some behaviours that could be seen as socially undesirable may be under-reported. However, it seems likely that this sample did not under-report behaviour at interview as all participants admitted to enough anti-social behaviour to merit a diagnosis of CD.

With a study of this design it is impossible to establish the veracity of the respondents conclusively. The original design for this study included a corroborative SDQ to be completed by the member of the care staff most involved with the pupil. However, this aspect of the design was not approved by the local research ethics committee. This additional information may have provided results that correlated better with the findings from the interview. It may then have been possible to ascertain whether pupils were minimising their difficulties, although staff may not always be aware of the young person's emotional difficulties or covert acts.

Responses tended to be low for the CNCEQ too. Out of a possible total errors score of 120, the highest score was 69. In the validation study for the CNCEQ, the mean number of errors made by a non-clinical sample was 57 (Leitenberg *et al*, 1986). The mean for total cognitive errors in this sample was 42.6, much lower than expected. Again, this cannot be explained by a low proportion of females as the mean total cognitive errors was higher for males than for females although this

difference was not significant. It is possible however, that the CNCEQ is not sensitive enough to elicit cognitive errors.

The CNCEQ may also be unable to differentiate between types of errors adequately. The reliability of the CNCEQ was originally tested on a sample of 143 children (Leitenberg *et al*, 1986). The internal consistency was shown to be good for total error score at 0.89. However, for each individual type of error it ranged from 0.60 to 0.71 which would be described as inadequate (Kline, 1993). The test re-test reliability would not meet the most rigorous standards either. For the total score at 0.65, the test re-test reliability failed to meet the acceptable level of 0.80 (Kline, 1993). For individual errors, it ranged from 0.44 to 0.58 which is particularly low. This suggests that the questions relating to the four proposed errors do not in fact measure four of Beck's cognitive errors but that total error score indicates a general propensity to make cognitive errors.

The construct validity of the measure was not reported by the authors of the measure, but the factor structure was analysed by Messer *et al*, in 1994. They concluded from their factor analysis that the CNCEQ does not support the multidimensional composition representing four cognitive errors rather a general negative cognitive set. Diagnostic groups could not be discriminated on the basis of CNCEQ total score, but internalising and externalising disorders could be discriminated on the basis of overgeneralisation score. This was not the case in the present study but it may explain in part why internalising and externalising disorders were not discriminated by total error score.

A final problem with the CNCEQ relates to the wording of the items. Some of the participants, particularly the younger ones were quite literal in their interpretation of the vignettes. For instance one describes a successful day at school until the last

class which goes badly. The participant is asked whether they would conclude from this that they hated school generally. Several participants responded that they would think like that a lot because it is their general opinion rather that in light of the scenario. This lead to inaccurate totals for number of cognitive errors.

There are a number of problems associated with DAWBA too. The authors have not yet published the inter-rater or test-retest reliability values of the measure. In addition, it has not been comprehensively compared with other, similar measures such as the DISC or the CAPA.

Although the DAWBA was constructed according to research criteria, a couple of sections deviated from this standard. It was relatively easy to attain the label of troublesome behaviour because only one feature had to be present to a definite degree. It would therefore be possible to meet this criteria for merely running away from home or for truancy. This is more lenient criteria for CD than from DSM-IV which requires three features to be present. This criticism is not entirely relevant to this sample as the majority of participants admitted to many of the listed behaviours, more than the minimum required by DSM-IV for a diagnosis of CD.

A similar criticism can be levelled against the section of the DAWBA entitled activity and concentration which pertains to AD/HD. It only comprised three questions and did not lead to a diagnostic label. It therefore required the researcher to make a decision as to whether participants met the criteria without reference to instructions from the questionnaire. This was done based on full DSM-IV criteria. Also, age of onset is not ascertained by the DAWBA. This is one of the most significant prognostic indicators relating to CD. In addition, there was no section relating to use of illicit substances. In the literature, drug misuse has been indicated as a

significant factor in the development and maintenance of conduct problems (Bukstein *et al*, 1992).

In summary, there are a number of problems associated with the measures used in this study. Other studies which reported significant results sometimes used other measures such as those designed for adults which may have been more robust psychometrically. However, on balance, measures designed for this age group are still preferable and the reported psychometric properties were amongst the best of the measures currently available. Although the DAWBA does not have published reliability data it enabled the researcher to elicit information from the participants and draw conclusions consistent with DSM-IV specifications.

4.44 Aetiological theories

One shortcoming of this study is that it did not consider any aetiological factors of participants' CD other than those relating to cognitive errors. As we did not have access to their education or medical files we have no knowledge of the young people's attachment pattern, their parenting experiences, their family histories or neurological history. The risk factors for CD as described in the literature were therefore not investigated. The balance had to be struck between keeping the interview as short as possible so that participants attention could be sustained and eliciting as much information as possible. Aetiological information was therefore not specifically requested. However, in the course of the interview with the participants some anecdotal evidence became apparent.

When inquiring about separation anxiety it became clear that some of the children had no attachment figure at all or that they had experienced significant separations from their main care givers. Several had been in foster care, others reported living

between the houses of a number of relatives. Others reported being seriously assaulted by one of their parents, having parents with substance misuse disorders, in prison, or with chronic mental health problems. The quality of attachment is questionable for several participants as their circumstances are characterised by risk factors for attachment disorder. Little information was gleaned about parenting style but the constitution of the family was often mentioned. Few reported regular involvement with both parents.

No information on neuropsychological history was available so intellectual levels and cognitive deficits could not be analysed. However, anecdotally, those who reported features of AD/HD also tended to report head injuries. This is in keeping with the features of AD/HD which indicate that sufferers do not have an acute sense of danger and have an increased incidence of dyspraxia. If AD/HD develops due to organic brain abnormalities then this may be exacerbated by head injury. It would be unsurprising therefore if the participants with AD/HD are displaying cognitive deficits in social situations.

The gaps in knowledge about aetiology means that it is only possible to speculate about the causes of CD in these children. It is also not possible to ascertain whether ODD preceded CD either. In terms of prognosis, it is difficult to predict outcomes for this group as some of the best prognostic indicators relate to pre-school behaviour. However, in terms of number of symptoms, those with the most DSM-IV symptoms (Pickles *et al*, 2001) and those who commit serious violent offences (Loeber, Green *et al*, 2000) would be expected to have the worst outcomes. As Oakbank is not expected to accommodate this group of offender, then the young people in this sample are not the ones with the worst prognosis.

4.45 Classification issues

One strength of the design of the study is that classification issues can be considered. The responses of the participants can be related to the conceptualisations of CD outlined in chapter one. It appears that these children add to their repertoire of anti-social behaviours in a standard way. Most of the children with mild CD reported only those features that are classified as serious violations of rules such as truancy, running away and staying out late. These behaviours tie in with the authority conflict pathway to CD described by Loeber and Stouthamer-Loeber (1998). Many of these behaviours may be functional in the settings they have lived in.

Those reporting a moderate number of features add destruction of property and deceitfulness and theft from DSM-IV to the violations of rules. Acts are both overt and covert but not generally the most serious ones in Loeber and Stouthamer-Loeber's hierarchy. Those children reporting many features had symptoms from all of the clusters of DSM-IV. Some had the more serious covert acts from Loeber's hierarchy such as burglary but none had acts from the most serious overt section as this would put them beyond Oakbank's remit.

Pupils could be placed in all four quadrants of Frick's model except the overt/destructive quadrant which is more related to ODD and may have been characteristic of this sub-sample in the past. However, as Loeber and Stouthamer-Loeber illustrated not all of those with ODD or mild CD go on to commit more serious acts in future.

As nearly all children were involved in fighting with their peers there was little evidence of non-aggressive CD as proposed by some theorists. This behaviour

may be essential to survive in their culture. Only those with severe CD reported being involved in other types of aggressive act.

4.46 Summary

In summary, a larger sample size, more rigorous measures and obtaining a more detailed background history for the participants would have improved the design of the study and may have influenced results. However, the interviews did produce interesting prevalence and co-morbidity figures for this population.

5 IMPLICATIONS AND CONCLUSION

5.1 IMPLICATIONS FOR TREATMENT

There are significant levels of co-morbid psychological problems within this population that should be addressed by local mental health services. An understanding of the psychological problems experienced by the group may lead to different approaches to the management of difficult behaviour at Oakbank. Within the mental health team a number of strategies should be available that could be efficacious singly or in combination with other treatments. Although this study has not been consistent with the literature showing that children with CD make cognitive errors, CBT may still be an appropriate treatment for specific disorders such as PTSD or generalised anxiety. Behaviour based treatments may also be efficacious in addressing anti-social behaviour or phobic disorders. Skills based training may be appropriate for those with externalising disorders. Treatment approaches such as EMDR or use of medication may also be available within the area. Training for education and social care staff in the recognition of mental health problems amongst adolescents may also encourage novel approaches to the management of conduct problems.

5.2 FUTURE RESEARCH

As one of the weaknesses of the study was the small sample size it would be interesting to repeat the study one year later with a new cohort of pupils at Oakbank school. This would double the sample size and improve the statistical power of the tests. Obviously, if the study were replicated, the design would have to remain exactly the same so other flaws such as weaknesses of the measures would

remain. An alternative project therefore, would be to repeat the study using a different measure of cognitive errors such as the Dysfunctional Attitudes Scale which was designed for adults. This may prove more successful at eliciting cognitive distortions or may support the finding of this study that the children at Oakbank make few cognitive errors.

Another interesting future project would be to investigate cognitive deficits rather than cognitive errors in this group of young people. Cognitive deficits have been implicated in the maintenance of CD particularly in those with co-morbid AD/HD. As about a third of our sample met the diagnostic criteria for AD/HD it would be interesting to put together a cognitive profile of this group of young people to test this theory.

In any future research, it would be useful to gather background information on each child such as family and medical history. This could corroborate conclusions drawn by the study and shed some light on issues such as aetiology and prognosis.

5.3 CONCLUSION

This study has not supported the body of research indicating that the number of cognitive distortions a young person makes is associated with psychological disorders. In addition, it has not supported the theory that mental health problems are specifically linked to particular cognitive errors. Finally, it did not support the theory that internalising and externalising disorders can be discriminated on the basis of frequency and type of cognitive error.

However, as predicted the prevalence rate for both internalising and externalising disorders among this sample was higher than would be expected amongst

community samples and often higher than would be expected in clinical samples. Co-morbidity amongst externalising disorders was at about expected levels however co-morbidity between externalising disorders and internalising disorders was high, particularly for anxiety disorders. These figures have implications for the management of this particular group of young people.

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Appendix A

NHS
Grampian

The prevalence of anxiety and depression amongst pupils in a residential school

Information Sheet

Introduction

Many young people feel unhappy or worried. Young people who are away from home or have had difficulties in their lives may feel even more sad and anxious than other people. We are interested to know whether the young people at Oakbank School are feeling especially sad or worried.

What will I have to do?

You will be asked to fill out a short questionnaire at tutor group about your feelings and behaviour over the last month. This should take about ten minutes. When you've finished put it in the envelope and hand it to me. I will be the only person to look at what you've written so it will be completely confidential. Later on, I'll arrange a time for you to come and talk to me in private about the things you said in your questionnaire. This will take about 30 minutes.

Where will this take place?

The meeting will take place at Oakbank School at a time convenient to you.

Who will know what I say?

Whatever you write in the questionnaire and whatever you say to me in the interview is private and confidential. No staff at Oakbank will know what you have said. However, If I was very worried about your well-being, then I would tell you that I was going to tell Russell Arthur the nurse, that I was worried about you.

Do I have to take part?

It is up to you whether you take part in this study. Your care at Oakbank will not be affected in any way if you choose not to take part. You can change your mind bout taking part at any time.

What to do now

You will be given the questionnaire at tutor group. You can then decide whether you want to fill it in.

Natalie Gornell (Psychologist in Clinical Training)
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Appendix B .

NHS Grampian

Consent Form

The Prevalence of Anxiety and Depression amongst Pupils at a Residential School

Name :

- I have read the information on this study and have had the opportunity to ask questions.
- I have been told what the project is for and understand what it entails.
- I know that I do not have to take part and that I can withdraw from the project at any time. If I do not want to get involved or I decide to withdraw I have been assured that my education and care will not be affected.
- I also understand that the information I provide will not be known to anyone apart from the person who interviews me and that all information will be treated very confidentially. The only time any information would be revealed would be if the researcher was very worried about me. In this case she would tell Russell Arthur the nurse that she was worried about me.

The Grampian Research Ethics Committee of Grampian Health Board and the University of Aberdeen has approved this study and may wish to inspect the data collected at any time as part of its monitoring activities.

I hereby agree to take part in this study which has been explained to me satisfactorily.

Name.....

Signature..... Date.....

I confirm that I have explained to the subject the nature and purpose of this study and have answered all queries posed by the subject as honestly, fully and truthfully as I can.

Name.....

Signature of Investigator..... Date.....

Appendix C

Strengths and Difficulties Questionnaire S[11-16]

For each item, please mark the box for Not True, Somewhat True or Certainly True. It would help us if you answered all items as best you can even if you are not absolutely certain or the item seems daft! Please give your answers on the basis of how things have been for you over the last six months.

Your Name ..... Male/Female

Date of Birth .....

	Not True	Somewhat True	Certainly True
I try to be nice to other people. I care about their feelings	☐	☐	☐
I am restless, I cannot stay still for long	☐	☐	☐
I get a lot of headaches, stomach-aches or sickness	☐	☐	☐
I usually share with others (food, games, pens etc.)	☐	☐	☐
I get very angry and often lose my temper	☐	☐	☐
I am usually on my own. I generally play alone or keep to myself	☐	☐	☐
I usually do as I am told	☐	☐	☐
I worry a lot	☐	☐	☐
I am helpful if someone is hurt, upset or feeling ill	☐	☐	☐
I am constantly fidgeting or squirming	☐	☐	☐
I have one good friend or more	☐	☐	☐
I fight a lot. I can make other people do what I want	☐	☐	☐
I am often unhappy, down-hearted or tearful	☐	☐	☐
Other people my age generally like me	☐	☐	☐
I am easily distracted, I find it difficult to concentrate	☐	☐	☐
I am nervous in new situations. I easily lose confidence	☐	☐	☐
I am kind to younger children	☐	☐	☐
I am often accused of lying or cheating	☐	☐	☐
Other children or young people pick on me or bully me	☐	☐	☐
I often volunteer to help others (parents, teachers, children)	☐	☐	☐
I think before I do things	☐	☐	☐
I take things that are not mine from home, school or elsewhere	☐	☐	☐
I get on better with adults than with people my own age	☐	☐	☐
I have many fears, I am easily scared	☐	☐	☐
I finish the work I'm doing. My attention is good	☐	☐	☐

Do you have any other comments or concerns?

Please turn over - there are a few more questions on the other side

Overall, do you think that you have difficulties in one or more of the following areas: emotions, concentration, behaviour or being able to get on with other people?

No	Yes - minor difficulties	Yes - definite difficulties	Yes - severe difficulties
☐	☐	☐	☐

If you have answered "Yes", please answer the following questions about these difficulties:

- How long have these difficulties been present?

Less than a month	1-5 months	6-12 months	Over a year
☐	☐	☐	☐

- Do the difficulties upset or distress you?

Not at all	Only a little	Quite a lot	A great deal
☐	☐	☐	☐

- Do the difficulties interfere with your everyday life in the following areas?

	Not at all	Only a little	Quite a lot	A great deal
HOME LIFE	☐	☐	☐	☐
FRIENDSHIPS	☐	☐	☐	☐
CLASSROOM LEARNING	☐	☐	☐	☐
LEISURE ACTIVITIES	☐	☐	☐	☐

- Do the difficulties make it harder for those around you (family, friends, teachers, etc.)?

Not at all	Only a little	Quite a lot	A great deal
☐	☐	☐	☐

Your Signature .....

Today's Date .....

Thank you very much for your help

Appendix D

The Development and Well-Being Assessment

Interview with 11-17 year olds

Surname:

First Names:

Age:

Date of Birth:

Male / Female

Clinic/Study Number:

Date of Interview:

Interviewer:

The first step is to administer the S11-16 Strengths and Difficulties Questionnaire (SDQ) and then use the transparency to score the front page, ringing the scores below.

SDQ Emotion Score	**0**	**1**	**2**	**3**	**4**	**5 | | 6**		**7**	**8**	**9**	**10**
SDQ Conduct Score	**0**	**1**	**2**	**3 | | 4**		**5**	**6**	**7**	**8**	**9**	**10**

Section A Separation Anxiety

Most young people are particularly attached to a few key adults, looking to them for security and comfort, and turning to them when upset or hurt.

	A1 Are you specially attached to the following adults?	No	Yes
a)	Your mother (biological or adoptive)	0	1
b)	Your father (biological or adoptive)	0	1
c)	Another mother figure (stepmother, foster mother, father's partner)	0	1
d)	Another father figure (stepfather, foster father, mother's partner)	0	1
e)	One or more grandparents	0	1
f)	One or more other adult relatives (e.g. aunt, uncle, grown-up brother or sister)	0	1
g)	Childminder, nanny, au pair	0	1
h)	One or more teachers	0	1
i)	One or more other adult non-relatives (e.g. a family friend or neighbour)	0	1
j)	Not specially attached to any adult	0	1

Only ask the following questions if the answer to A1j was 'Yes', i.e. the child is not specially attached to any adult.

	Are you specially attached to the following children or young people?	No	Yes
k)	One or more brothers, sisters or other young relatives	0	1
l)	One or more friends	0	1
m)	Not specially attached to anyone	0	1

if A1m is 'Yes', then skip to section B. Otherwise continue:

You've just told me who you are specially attached to: *If you want, you can list all from A1a to A1i (or from A1k to A1l) that were answered 'Yes'.* From now on, I am going refer to these people as your 'attachment figures'

What I'd like to know next is how much you worry about being separated from your attachment figures. Most young people have some worries of this sort, but I'd like to know how you compare with others of your own age. I am interested in how you are usually - not on the occasional 'off day'.

		No	Yes
A2	Overall, in the **last 4 weeks**, have you been particularly worried about being separated from your attachment figures?	0	1

If A2 = Yes or if SDQ emotion score is ≥6 then continue. If neither, then skip to section B.

A3	Over the **last 4 weeks**, and comparing yourself with other people of the same age...	No more than others (or Not applicable)	A little more than others	A lot more than others
a)	have you worried either about something unpleasant happening to your attachment figures, or about losing them?	0	1	2
b)	have you worried unrealistically that you might be taken away from your attachment figures, e.g. by being kidnapped, taken to hospital or killed?	0	1	2
c)	have you not wanted to go to school in case something nasty happened to your attachment figures while you were at school? *(Do not include reluctance to go to school for other reasons e.g. fear of bullying or exams)*	0	1	2
d)	have you worried about sleeping alone?	0	1	2
e)	have you come out of your bedroom at night to check on, or to sleep near, your attachment figures?	0	1	2
f)	have you worried about sleeping in a strange place?	0	1	2
g)	have you been afraid of being alone at home if your attachment figures pop out for a moment?	0	1	2
h)	have you had repeated nightmares or bad dreams about being separated from your attachment figures?	0	1	2
i)	have you had headaches, stomach aches or felt sick when you had to leave your attachment figures or when you knew it was about to happen?	0	1	2
j)	has being apart from your attachment figures or the thought of being apart from your attachment figures led to worry, crying, angry outbursts or misery?	0	1	2

If any of the items in A3 have been answered "A lot more than others" then tick Separation Anxiety on the check list in M1 (p.31) and continue with A4. If not, skip to section B.

A4 Have your worries about separation been there for at least **4 weeks**?

No	Yes
0	1
↓ Section B	↓ A5

A5 How old were you when your worries about separation began?

(if since birth, enter 0)

[ ] years old

A6 How much have these worries upset or distressed you?

Not at all	A little	A medium amount	A great deal
0	1	2	3

A7 Have these worries interfered with...

		Not at all	A little	A medium amount	A great deal
a)	how well you get on with the rest of the family?	0	1	2	3
b)	making and keeping friends?	0	1	2	3
c)	learning or class work?	0	1	2	3
d)	playing, hobbies, sports or other leisure activities?	0	1	2	3

A8 Have these worries made it harder for those around you (family, friends, teachers etc.)?

Not at all	A little	A medium amount	A great deal
0	1	2	3

Section B Fears of specific things or situations

This section of the interview is about some things or situations that young people are often scared of, even though they aren't really a danger to them. I'd like to know what you are scared of. I am interested in how you are usually - not on the occasional 'off day'. Not all fears are covered in this section – some are covered in other sections, e.g. fear of social situations, dirt, separation, crowds.

B1	Are you scared of any of the things or situations on this list?	No	A little	A lot
a)	Animals: Dogs, spiders, bees and wasps, mice and rats, snakes, or any other animal, bird or insect	0	1	2
b)	Some aspect of the natural environment, e.g. storms, thunder, heights or water	0	1	2
c)	The dark	0	1	2
d)	Loud noises, e.g. fire alarms, fireworks	0	1	2
e)	Blood - injection - injury: Set off by the sight of blood or injury, or by an injection, or by other medical procedures	0	1	2
f)	Dentists or doctors	0	1	2
g)	Vomiting, choking or getting particular diseases, e.g. cancer or AIDS	0	1	2
h)	Using particular types of transport, e.g. cars, buses, boats, planes, ordinary trains, underground trains, bridges	0	1	2
i)	Small enclosed spaces, e.g. lifts, tunnels	0	1	2
j)	Using the toilet, e.g. at school or in someone else's house	0	1	2
k)	Specific types of people, e.g clowns, people with beards, with crash-helmets, in fancy dress, dressed as Santa Claus	0	1	2
l)	Imaginary or supernatural beings, e.g. monsters, ghosts, aliens, witches	0	1	2
m)	Any other specific fear *(Describe)*	0	1	2

If any of the items in B1 have been answered "a lot", then continue with B2. Otherwise, go to section C.

B2	Are these fears a real nuisance to you, or to anyone else?	No	Perhaps	Definitely
		0	1	2

If B2 = "Definitely" or if SDQ emotion score is ≥ 6 then continue. If neither, then skip to section C.

B3 How long has this fear or the most severe of these fears been present?

Less than 1 month	1 - 5 months	6 months or more
0	1	2

B4 When you come up against the things you are afraid of, or when you think you are about to come up against them, do you become anxious or upset?

No	A little	A lot
0	1	2
	B7	↓ B5

B5 Do you become anxious or upset every time, or almost every time, you come up against the things you are afraid of?

No	Yes
0	1

B6 How often do your fears result in you becoming upset like this?
N.B. if you are afraid of something that is only there for part of the year (e.g. wasps), this question is about that particular season.

Every now and then	Most weeks	Most days	Many times a day
0	1	2	3

B7 Do your fears lead to you avoiding the things you are afraid of?

No	A little	A lot
0	1	2
	B9	↓ B8

B8 Does this avoidance interfere with your daily life?

No	A little	A lot
0	1	2

	No	Perhaps	Definitely
B9 Do <u>other people</u> think that your fears are over the top or unreasonable?	0	1	2
B10 And what about you? Do <u>you</u> think that your fears are over the top or unreasonable?	0	1	2

If B2 = "Definitely" or B4 = "A lot" or B7 = "A lot", then tick Specific Phobia on check list in M1(p.31).

B11 Have your fears made it harder for those around you (family, friends, teachers, etc.)?

Not at all	A little	A medium amount	A great deal
0	1	2	3

Section C Fear of social situations

I am interested in whether you are particularly afraid of social situations. This is as compared with other people of your own age, and is not counting the occasional 'off day' or ordinary shyness.

C1 Overall, do you particularly fear or avoid social situations that involve a lot of people, meeting new people, or doing things in front of other people?

No	Yes
0	1

If C1 = "Yes" or if SDQ emotion score is ≥ 6, then continue. If neither, then skip to section D.

C2 Have you been particularly afraid of any of the following social situations over the **last 4 weeks**?

	No	A little	A lot
a) Meeting new people?	0	1	2
b) Meeting a lot of people, such as at a party?	0	1	2
c) Eating in front of others?	0	1	2
d) Speaking in class?	0	1	2
e) Reading out loud in front of others?	0	1	2
f) Writing in front of others?	0	1	2

If none of the items in C2 have been answered "A lot", then skip to section D.

C3 Most young people are attached to a few key adults, feeling more secure when they are around. Some young people are only afraid of social situations if they don't have one of these key adults around.

Other young people are afraid of social situations even when they are with one of these key adults.

Which is true for you?

Mostly fine in social situations as long as key adults are around	Social fears are marked even when key adults are around
0	1
↓ Section D	↓ C4

C4 Are you just afraid with adults, or are you also afraid in situations that involve a lot of young people, or meeting new people of your own age?

Just with adults	Just with young people	With both adults and young people
0	1	2

C5 Outside of these social situations, are you able to get on well enough with the adults and young people you know best?

No	Yes
0	1

C6 Is the main reason you dislike social situations because you are afraid you will act in a way that will be embarrassing or show you up?

No	Perhaps	Definitely
0	1	2

C7 *(Only ask if C2d = Yes, or C2e = Yes, or C2f = Yes)*

Do you dislike social situations because of specific problems with speaking, reading or writing?

No	Perhaps	Definitely
0	1	2

C8 How long has this fear of social situations been present?

Less than 1 month	1 - 5 months	6 months or more
0	1	2

C9 How old were you when this fear of social situations began?

(if since birth, enter 0)

[ ] years old

C10 When you are in one of the social situations you are afraid of, do you normally...

		No	Yes
a)	blush (go red) or shake (tremble)?	0	1
b)	feel afraid that you are going to be sick (throw up)?	0	1
c)	need to rush off to the toilet or worry that you might be caught short?	0	1

C11 When you are in one of the social situations you are afraid of, or when you think you are about to come up against one of these situations, do you become anxious or upset?

No	A little	A lot
0	1	2
	C13	C12

C12 How often does your fear of social situations result in you becoming upset like this?

Every now and then	Most weeks	Most days	Many times a day
0	1	2	3

C13 Does your fear lead to you avoiding social situations?

No	A little	A lot
0	1	2
	C15	C14

C14 Does this avoidance interfere with your daily life?

No	A little	A lot
0	1	2

	No	Perhaps	Definitely
C15 Do you think that your fear of social situations is over the top or unreasonable?	0	1	2
C16 Are you upset about having this fear?	0	1	2

If C11 = "A lot" or C13 = "A lot", then tick Social Phobia on check list in M1 (p.31).

C17 Has your fear of social situations made it harder for those around you (family, friends, teachers etc.)?

Not at all	A little	A medium amount	A great deal
0	1	2	3

Section D Panic attacks and agoraphobia

Many young people have times when they get very anxious or worked up about silly little things, but some get severe panics that come out of the blue - they just don't seem to have any trigger at all.

		No	Yes
D1	In the **last 4 weeks** have you had a panic attack when you suddenly became very panicky for no reason at all, without even a little thing to set you off?	0	1

If D1 = "Yes", then tick the box for Panic/Agoraphobia on the check list in M1 (p.31) and continue with D2. Otherwise skip to D4.

D2		No	Yes
a)	Do your panics start very suddenly?	0	1
b)	Do they reach a peak within a few minutes (up to 10)?	0	1
c)	Do they last at least a few minutes?	0	1

D3	When you are feeling panicky, do you also feel...	No	Yes
a)	your heart racing, fluttering or pounding away?	0	1
b)	sweaty?	0	1
c)	trembly or shaky?	0	1
d)	that your mouth is very dry?	0	1
e)	that it is hard to get your breath or that you are suffocating?	0	1
f)	that you are choking?	0	1
g)	pain or an uncomfortable feeling in your chest?	0	1
h)	that you want to be sick (throw up) or that you stomach is turning over?	0	1
i)	dizzy, unsteady, faint or light-headed?	0	1
j)	as though things around you were unreal or you were not really there?	0	1
k)	afraid that you might lose control, go crazy or pass out?	0	1
l)	afraid you might die?	0	1
m)	hot or cold all over?	0	1
n)	numbness or tingling feelings in your body?	0	1

		No or Not applicable	Yes
D4	Over the **last 4 weeks** have you been very afraid of, or tried to avoid, the following situations?		
a)	Crowds	0	1
b)	Public Places	0	1
c)	Travelling alone (if you ever do so)	0	1
d)	Being far from home	0	1

D5 *(Only ask if any of the items in D4 have been answered "Yes")*

Is this fear or avoidance of (Situation mentioned in D4) mostly because you are afraid that if you had a panic attack, or something like that (such as dizziness or diarrhoea), you would find it difficult or embarrassing to get away, or wouldn't be able to get the help you need?	No	Yes
	0	1

If D5 = "Yes" then tick the box for Panic/Agoraphobia on the check list in M1 (p.31).

D6 *If the check list in M1 (p.31) has been ticked for Panic/Agoraphobia then continue. Otherwise skip to section E.*

How much have panic attacks and/or avoidance of specific situations upset or distressed you?	Not at all	A little	A medium amount	A great deal
	0	1	2	3

	Have these panic attacks and/or avoidance of specific situations interfered with...	Not at all	A little	A medium amount	A great deal
a)	how well you get on with the rest of the family?	0	1	2	3
b)	making and keeping friends?	0	1	2	3
c)	learning or class work?	0	1	2	3
d)	playing, hobbies, sports or other leisure activities?	0	1	2	3

D8 Have panic attacks and/or avoidance of specific situations made it harder for those around you (family, friends, teachers etc.)?	Not at all	A little	A medium amount	A great deal
	0	1	2	3

Section E Post-traumatic stress

The next section is about events or situations that are exceptionally stressful, and that would really upset almost anyone. For example being caught in a burning house, being abused, being in a serious car crash or seeing family or friends being mugged at gunpoint.

		No	Yes
E1	During your lifetime has anything like this happened to you?	0	1

		No	Yes
E2	*(If E1 = 'No' then start question with* 'Just to check...') Have you ever experienced any of the following? (use card)		
	Involved in a disaster		
a)	A serious and frightening accident, e.g. being run over by a car, being in a bad car or train crash, etc.	0	1
b)	A bad fire, e.g. trapped in a burning building	0	1
c)	Other disasters, e.g. kidnapping, earthquake, war	0	1
	Victim of violence		
d)	A severe attack or threat, e.g. by a mugger or a gang	0	1
e)	Severe physical abuse that you still remember	0	1
	Victim of sexual assault		
f)	Sexual abuse	0	1
g)	Rape	0	1
	You witnessed something very upsetting		
h)	You witnessed severe domestic violence, e.g. saw your mother being badly beaten up at home	0	1
i)	You saw a family member or a friend severely attacked or threatened, e.g. by a mugger or a gang	0	1
j)	You witnessed a sudden death, a suicide, an overdose, a serious accident, a heart attack etc.	0	1
	Other severe trauma		
k)	Some other severe trauma (Describe)	0	1

If any of the items in E2 have been answered "Yes", then continue with E3. Otherwise, go to section F.

E3 At the time, were you very upset or badly affected by it in some way?

No	Yes
0	1

E3A At present, is it affecting you behaviour, feelings or concentration?

No	Yes
0 ↓ Section F	1 ↓ E4

E4	Over the **last 4 weeks**, have you...	No	A little	A lot
a)	"relived" the event with vivid memories (flashbacks) of it?	0	1	2
b)	had a lot of upsetting dreams of the event?	0	1	2
c)	got upset if anything happened that reminded you of it?	0	1	2
d)	tried to avoid thinking or talking about anything to do with the event?	0	1	2
e)	tried to avoid activities, places or people that remind you of the event?	0	1	2
f)	blocked out important details of the event from your memory?	0	1	2
g)	shown much less interest in activities you used to enjoy?	0	1	2
h)	felt cut off or distant from others?	0	1	2
i)	expressed a smaller range of feelings than in the past, e.g. no longer able to express loving feelings?	0	1	2
j)	felt less confidence in the future?	0	1	2
k)	had problems sleeping?	0	1	2
l)	felt irritable or angry?	0	1	2
m)	had difficulty concentrating?	0	1	2
n)	always been on the alert for possible dangers?	0	1	2
o)	jumped at little noises or been easily startled in other ways?	0	1	2

If any part of E4 is answered "A lot", then tick the box for Post Traumatic Stress on the check list in M1 (p.31) and continue with E5. Otherwise, skip to section F.

E5 You have told me about (Definite Symptom/s). How long after the stressful event did these other problems begin?

Within 6 months	More than 6 months after event
0	1

E6 How long have you been having these problems?

Less than 1 month	1 or 2 months	3 months or more
0	1	2

E7 How upset or distressed are you by the problems that the stressful event(s) triggered off?

Not at all	A little	A medium amount	A great deal
0	1	2	3

E8 Have these problems interfered with...

		Not at all	A little	A medium amount	A great deal
a)	how well you get on with the rest of the family?	0	1	2	3
b)	making and keeping friends?	0	1	2	3
c)	learning or class work?	0	1	2	3
d)	playing, hobbies, sports or other leisure activities?	0	1	2	3

E9 Have these problems made it harder for those around you (family, friends, teachers etc.)?

Not at all	A little	A medium amount	A great deal
0	1	2	3

Section F Compulsions and Obsessions

Many young people have some rituals or superstitions, e.g. not stepping on the cracks in the pavement, having to go through a special goodnight ritual, having to wear lucky clothes for exams, or needing a lucky mascot for school sports matches. It is also common for young people to go through phases when they seem obsessed by one particular subject or activity, e.g. cars, a pop group, a football team. But what I want to know is whether you have any rituals or obsessions that go beyond this.

F1 Do you have rituals or obsessions that upset you, waste a lot of your time, or interfere with your ability to get on with everyday life?

No	Yes
0	1

If F1 = Yes, or SDQ Emotion score is ≥ 6 then continue. If neither, then skip to section G.

F2 Over the **last 4 weeks** have you had any of the following rituals (doing any of the following things over and over again even, though you have already done them or don't need to do them at all)?

		No	A little	A lot
a)	Excessive cleaning: hand washing, baths, showers, toothbrushing etc?	0	1	2
b)	Other special measures to avoid dirt, germs or poisons?	0	1	2
c)	Excessive checking: electric switches, gas taps, locks, doors, the oven?	0	1	2
d)	Repeating the same simple activity many times in a row for no reason, e.g. repeatedly standing up or sitting down or going backwards and forwards through a doorway?	0	1	2
e)	Touching things or people in particular ways?	0	1	2
f)	Arranging things so they are just so, or exactly symmetrical?	0	1	2
g)	Counting to particular lucky numbers or avoiding unlucky numbers?	0	1	2

F3 Over the **last 4 weeks** have you been obsessively worrying about dirt, germs or poisons – not being able to get thoughts about them out of your mind?

No	A little	A lot
0	1	2

If any of the items in F2 or F3 have been answered "A lot", then tick Obsessions and Compulsions on the check list in M1 (p.31).

F4 Over the **last 4 weeks** have you been obsessed by the worry that something terrible will happen to yourself or to others - illnesses, accidents, fires etc.

No	A little	A lot
0	1	2
	F7	↓ F6

F6 Is this obsession about something terrible happening to yourself or to others just one part of a general concern about being separated from your key attachment figures, or is it a problem in its own right?

Part of separation anxiety	A problem in its own right
0	1

If F6 = "A problem in its own right" then tick Obsessions and Compulsions on the check list in M1 (p.31).

F7 *If the Obsessions and Compulsions box is ticked in M1, then continue. Otherwise skip to section G*

Have your rituals or obsessions been present on most days for a period of at **least 2 weeks**?

No	Yes
0	1

F8 Do you think that your rituals or obsessions are over the top or unreasonable?

No	Perhaps	Definitely
0	1	2

F9 Do you resist the rituals or obsessions?

No	Perhaps	Definitely
0	1	2

F10 Do the rituals or obsessions upset you?

No, I enjoy them	Neutral, I neither enjoy them nor become upset	They upset me a little	They upset me a lot
0	1	2	3

F11 Do the rituals or obsessions use up at least an hour a day on average?

No	Yes
0	1

F12 Have the rituals or obsessions interfered with...

		Not at all	A little	A medium amount	A great deal
a)	how well you get on with the rest of the family?	0	1	2	3
b)	making and keeping friends?	0	1	2	3
c)	learning or class work?	0	1	2	3
d)	playing, hobbies, sports or other leisure activities?	0	1	2	3

F13 Have the rituals or obsessions made it harder for those around you (family, friends, teachers etc.)?

Not at all	A little	A medium amount	A great deal
0	1	2	3

Section G Generalized Anxiety

This section is about worrying

G2 Do you ever worry?

No	Yes
0	1
↓	↓
Section H	Continue

Some young people worry about just a few things, sometimes related to specific fears, obsessions or separation anxieties. Other young people worry about many different aspects of their lives. They may have specific fears, obsessions or separation anxieties, but they also have a wide range of worries about many things.

G2A Are you a worrier in general?

No, I just have a few specific worries	Yes, I worry in general
0	1
↓	↓
Only continue if SDQ emotion score ≥ 6	*Continue*

G3 Over the **last 6 months**, have you worried so much about so many things that it has really upset you or interfered with your life?

No	Perhaps	Definitely
0	1	2

If G3 = "Perhaps" or G3 = "Definitely" or SDQ emotion score is ≥ 6, then continue. If neither, then skip to section H.

G4	Thinking about the **last 6 months**, and comparing yourself with other people of your age, have you worried about...	No more than others	A little more than others	A lot more than others
a)	Past behaviour: Did I do that wrong? Have I upset someone? Have they forgiven me?	0	1	2
b)	School work, homework or examinations	0	1	2
c)	Disasters: Burglaries, muggings, fires, bombs etc.	0	1	2
d)	Your own health	0	1	2
e)	Bad things happening to others: family, friends, pets, the world (e.g. wars).	0	1	2
f)	The future: e.g. changing school, moving house, getting a job, getting a boy/girlfriend	0	1	2
g)	Making and keeping friends	0	1	2
h)	Death and dying	0	1	2
i)	Being bullied or teased	0	1	2
j)	Your appearance or weight	0	1	2
k)	Other specific worry (Describe)	0	1	2

If 2 or more of these worries were answered 'A lot more than others' then continue, else skip to section H

G6 Over the **last 6 months** have you worried excessively on more days than not?

No	Yes
0	1
↓	↓
Section H	Tick Generalized Anxiety on the check list in M1 (p.31). Go to G7

G7 Do you find it difficult to control the worry?

No	Yes
0	1

G8 *If any of the following questions are answered "Yes", ask* "Has this been true for more days than not in the **last 6 months**?" *and record answer in second column.*

		In general			*More days than not*	
		No	Yes		No	Yes
a)	Does worrying lead to you feeling restless, keyed up, on edge, or unable to relax?	0	1	→	0	1
b)	Does worrying lead to you feeling tired or "worn out" more easily?	0	1	→	0	1
c)	Does worrying lead to difficulties in concentrating or to your mind going blank?	0	1	→	0	1
d)	Does worrying lead to irritability?	0	1	→	0	1
e)	Does worrying lead to you feeling tense in your whole body?	0	1	→	0	1
f)	Does worrying interfere with your sleep, e.g. difficulty in falling or staying asleep, or restless, unsatisfying sleep?	0	1	→	0	1

G9 How upset or distressed are you as a result of all your worries?

Not at all	A little	A medium amount	A great deal
0	1	2	3

G10 Have your worries interfered with...

		Not at all	A little	A medium amount	A great deal
a)	how well you get on with the rest of the family?	0	1	2	3
b)	making and keeping friends?	0	1	2	3
c)	learning or class work?	0	1	2	3
d)	playing, hobbies, sports or other leisure activities?	0	1	2	3

G11 Have these worries made it harder for those around you (family, friends, teachers etc.)?

Not at all	A little	A medium amount	A great deal
0	1	2	3

Section H Depression

This section of the interview is about your mood.

H1 **In the last 4 weeks**, have there been times when you have been very sad, miserable, unhappy or tearful?

No	Yes
0	1
↓	↓
H7	H2

H2 Over the **last 4 weeks**, has there been a period when you have been really miserable nearly <u>every</u> day?

No	Yes
0	1

H3 During the time when you have been miserable, have you been really miserable for <u>most</u> of the day? (i.e. for more hours than not).

No	Yes
0	1

H4 When you have been miserable, could you be cheered up?

Easily	With difficulty/ only briefly	Not at all
0	1	2

H5 Over the **last 4 weeks**, the period of being really miserable has lasted:

Less than 2 weeks	2 weeks or more
0	1

If H1 = "Yes" <u>and</u> H2 = "Yes" <u>and</u> H3 = "Yes", then tick Depression on check list in M1 (p.31).

H7 In the **last 4 weeks**, have there been times when you have been grumpy or irritable in a way that was out of character for you?

No	Yes
0	1
↓	↓
H13	H8

H8 Over the **last 4 weeks**, has there been a period when you have been really irritable nearly <u>every</u> day?

No	Yes
0	1

H9 During the period when you have been grumpy or irritable, have you been like that for <u>most</u> of the day? (i.e. more hours than not)

No	Yes
0	1

H10 Has the irritability been improved by particular activities, by friends coming round or by anything else?

Easily	With difficulty/ only briefly	Not at all
0	1	2

H11 Over the **last 4 weeks**, the period of being really irritable has lasted:

Less than 2 weeks	2 weeks or more
0	1

If H7 = "Yes" <u>and</u> H8 = "Yes" <u>and</u> H9 = "Yes", then tick Irritability on check list in M1 (p.31).

H13 In the **last 4 weeks**, have there been times when you have lost interest in everything, or nearly everything, that you normally enjoy doing?

No	Yes
0	1
↓	↓
H18	H14

H14 Over the **last 4 weeks**, has there been a period when this lack of interest has been present nearly <u>every</u> day?

No	Yes
0	1

H15 During these days when you have lost interest in things, have you been like this for <u>most</u> of each day? (i.e. more hours than not).

No	Yes
0	1

H16 Over the **last 4 weeks**, this loss of interest has lasted:

Less than 2 weeks	2 weeks or more
0	1

H17 *If Depression or Irritability box has been checked, ask:*

Has this loss of interest been present during the same period when you have been really miserable or irritable for most of the time?

No	Yes
0	1

If H13 = "Yes" <u>and</u> H14 = "Yes", then tick Loss of Interest on check list in M1 (p.31).

If Depression or Irritability or Loss of Interest box has been ticked on the check list M1 (p.31), then continue. Otherwise skip to H22.

		No	Yes
H18	During the period when you were sad, irritable or lacking in interest...		
a)	did you lack energy and feel tired all the time?	0	1
b)	were you eating much more or much less than normal?	0	1
c)	did you either lose or gain a lot of weight?	0	1
d)	did you find it hard to get to sleep or to stay asleep?	0	1
e)	did you sleep too much?	0	1
f)	were you agitated or restless for much of the time?	0	1
g)	did you feel worthless or unnecessarily guilty for much of the time?	0	1
h)	did you find it unusually hard to concentrate or to think things out?	0	1
i)	did you think about death a lot?	0	1
j)	did you think about harming yourself or killing yourself?	0	1
k)	did you try to harm yourself or kill yourself?	0	1

		No	Yes
H18L	Over the whole of your lifetime have you ever tried to harm yourself or kill yourself?	0	1

		Not at all	A little	A medium amount	A great deal
H19	How much has your sadness, irritability or loss of interest upset or distressed you?	0	1	2	3

		Not at all	A little	A medium amount	A great deal
H20	Has your sadness, irritability or loss of interest interfered with...				
a)	how well you get on with the rest of the family?	0	1	2	3
b)	making and keeping friends?	0	1	2	3
c)	learning or class work?	0	1	2	3
d)	playing, hobbies, sports or other leisure activities?	0	1	2	3

		Not at all	A little	A medium amount	A great deal
H21	Has your sadness, irritability or loss of interest made it harder for those around you (family, friends, teachers, etc.)?	0	1	2	3

Now go to section J. ***Do not ask*** *H22 to H24 if you have already asked H18 i to l.*

Deliberate Self-Harm

		No	Yes
H22	Over the **last 4 weeks**, have you thought about deliberately harming or hurting yourself?	0	1
H23	Over the **last 4 weeks**, have you tried to harm or hurt yourself?	0	1
H24	Over the whole of your lifetime, have you ever tried to harm or hurt yourself?	0	1

If H22= "Yes" or H23= "Yes" or H24= "Yes", then tick Deliberate Self-Harm on check list in M1 (p.31).

Section J Attention and Activity

This section of the interview is about attention and activity.

		No	A little	A lot
J1	Do your teachers complain about you having problems with overactivity or poor concentration?	0	1	2
J2	Do your family complain about you having problems with overactivity or poor concentration?	0	1	2
J3	And what do you think? Do you think you have real problems with overactivity or poor concentration?	0	1	2

Section K Behaviour that sometimes gets people into trouble

This next section is about behaviour that sometimes gets young people into trouble with parents, teachers, or other adults.

		No	A little	A lot
K1	Do your teachers complain about you being awkward or troublesome?	0	1	2
K2	Do your family complain about you being awkward or troublesome?	0	1	2
K3	And what do you think? Do you think you are awkward or troublesome?	0	1	2

I'm now going to ask about things you may have done over the **last 12 months**.

K4 *If any of the following questions are answered* "Definitely" *ask* "Has this been going on for the **last 6 months**?" *and record answer in second column.*

	Over the **last 12 months**...	*Over last 12 months*				*Last 6 months*	
		No	Perhaps	Definitely		No	Yes
a)	have you often told lies in order to get things or favours from others, or to get out of having to do things you are supposed to do?	0	1	2	→	0	1
b)	have you often started fights? (*Other than with brothers or sisters*)	0	1	2	→	0	1
c)	have you often bullied or threatened people?	0	1	2	→	0	1
d)	have you often stayed out after dark much later than you were supposed to?	0	1	2	→	0	1
e)	have you stolen from the house, or from other people's houses, or from shops or school? *(This doesn't include very minor thefts, e.g. stealing your brother's pencil or food from the fridge)*	0	1	2	→	0	1
f)	have you run away from home more than once, or ever stayed away all night without permission	0	1	2	→	0	1
g)	have you often played truant (bunked off) from school?	0	1	2	→	0	1

K5 *(If 13 or older and definitely playing truant in the past year, ask this question. Otherwise skip to K6)*

Did you start playing truant (bunking off) from school before you were 13?

No	Yes
0	1

If any of the items in K4 have been answered "Definitely", then tick Troublesome Behaviour on the check list in M1 (p.31).

Only continue if you have just ticked the check list M1 (p.31) for Troublesome Behaviour, or if SDQ conduct score ≥ 4. Otherwise skip to section L.

K6

I am now going to ask about some more behaviours that sometimes get people into trouble. I have to ask all people all questions even when they are not likely to apply.

If any of the following questions are answered "Yes" then ask "Has this happened in the **last 6 months**?" *and record answer in second column*

	Have any of the following happened even once in the **last 12 months**?	***Over the last 12 months***			***Last 6 months***	
		No	Yes		No	Yes
a)	Have you used a weapon or anything that could seriously hurt someone? *(e.g. a bat, brick, broken bottle, knife, gun)*	0	1	→	0	1
b)	Have you really hurt someone or been physically cruel to them? *(e.g. have tied up, cut or burned someone).*	0	1	→	0	1
c)	Have you been really cruel on purpose to animals and birds?	0	1	→	0	1
d)	Have you deliberately started a fire? *(This is only if you intended to cause severe damage. This question is not about lighting campfires, or burning individual matches or pieces of paper)*	0	1	→	0	1
e)	Have you deliberately destroyed someone else's property? *(This question is not about fire setting or very minor acts, e.g. destroying sister's drawing. It does include behaviour such as smashing car windows or school vandalism)*	0	1	→	0	1
f)	Have you ever been involved in stealing on the streets, e.g. snatching a handbag or mugging?	0	1	→	0	1
g)	Have you tried to force someone into sexual activity against their will?	0	1	→	0	1
h)	Have you broken into a house, any other building or a car?	0	1	→	0	1

If any of the items in K6 have been answered "Yes", then tick Troublesome Behaviour on the check list in M1 (p.31).

K7A Have the behaviours that have got you into trouble been present for at **least 6 months**?

No	Yes
0	1

K7 Have you ever been in trouble with the police? *(Describe)*

.....

.....

No	Yes
0	1

If K7= "Yes" then tick Trouble With The Police on the check list in M1 (p.31).

If the check list in M1 (p.31) has been ticked for Troublesome Behaviour or Trouble With The Police then continue. Otherwise skip to section L.

		Not at all	A little	A medium amount	A great deal
K8	Have the behaviours that have got you into trouble interfered with ...				
a)	how well you get on with the rest of the family?	0	1	2	3
b)	making and keeping friends?	0	1	2	3
c)	learning or class work?	0	1	2	3
d)	playing, hobbies, sports or other leisure activities?	0	1	2	3

K9 Have the behaviours that have got you into trouble made it harder for those around you (family, friends, teachers etc.)?

Not at all	A little	A medium amount	A great deal
0	1	2	3

problems

s. I now want to ask you

r twitches that you can't seem

No	Yes
0	1

:st things about you?

concerned that you have been

No	Yes
0	1

ut-of-the-ordinary experiences, ng things, or having unusual d you?

No	Yes
0	1

you have already told me about, bout your feelings or behaviour u or anyone else?

No	Yes
0	1

? They could be

L3 = "Yes" or L4= "Yes" then tick Less Common Difficulties on the check

Section M Areas of Difficulty

M1 Check list of difficulties

A ❒ Separation anxiety = fear of being separated from *(list main attachment figures from A1)*

.....

B ❒ Specific phobia = fear of *(list main fears from B1)*.....

.....

C ❒ Social phobia = fear of *(list main fears from C1)*.....

.....

D ❒ Panic/agoraphobia = panic attacks and avoidance of crowds, being out alone etc. *(delete as appropriate).*

E ❒ Post traumatic stress = distress triggered by experiencing *(from E1)*.....

.....

F ❒ Obsessions and compulsions = rituals or obsessions involving *(from F2, F 3 and F4)*.....

.....

G ❒ Generalized anxiety = excessive worrying about *(from G4)*.....

.....

H ❒ Depression
❒ Irritability
❒ Loss of interest
❒ Deliberate self-harm

K ❒ Troublesome behaviour = behaviours that can get people into trouble such as *(list from K4 and K6)*

.....

❒ Trouble with the Police

L ❒ Less common difficulties = difficulties with *(list from L1, L2 and L3)*

.....

Appendix E

Name _____

Instructions

This questionnaire describes a number of situations that might happen to kids. Each situation is followed by a thought that a kid in that situation might have. This thought is in "quotation marks". We want to know how similar that thought is to what you might think in that situation.

Please read each situation and <u>imagine</u> that it is happening to you, even if it never has in the past. Then read the thought which is in "quotations". Circle the statement underneath each thought that best describes how similar that thought is to how <u>you</u> would think in that situation.

As an example let's read this:

A. You are the goalie for your soccer team. The game ends in a 1-1 tie. After the game you hear one of your teammates say that your team should have won today. You think, "He/She thinks it's my fault we didn't win."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

If the thought ("He/She thinks it's my fault we didn't win.") was somewhat like the way <u>you</u> would think in that situation, you would circle:

(somewhat like I would think)

B. You see two of your friends talking together at recess. As you walk towards them, they go over to the softball field and start playing catch. You think, "Maybe they're mad at me about something."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

If the thought ("Maybe they're mad at me about something.") was a lot like the way <u>you</u> would think in that situation, you would circle:

(a lot like I would think)

I will read each item out loud. You can follow along with me. If you wish, you can also read at your own rate and answer the questions. If you have a question, please raise your hand and I will come to your seat to answer it. Since this is a research study it is important that you answer honestly. Nobody else will be allowed to see your answers. Any questions? Please be certain to put your name at the top of this page and then turn to the first question.

1) You invite one of your friends to stay overnight at your house. Another one of your friends finds out about it. You think, "He/She will be real mad at me for not asking them and never want to be friends again."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

2) Your class is having 4-person relay races in gym class. Your team loses. You think, "If I had just been faster we would not have lost."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

3) You are trying out for the school softball team. You get up four times and get two hits and make two outs. You think, "What a lousy practice I had."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

4) Your team loses a spelling contest. The other team won easily. You think, "If I were smarter, we wouldn't have lost."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

5) Some of your friends have asked you if you're going to try out for the school soccer team. You tried out last year but did not make it. You think, "What's the use of trying out, I couldn't make it last year."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

6) You call one of the kids in your class to talk about your math homework. He/She says, "I can't talk to you now, my father needs to use the phone." You think, "They didn't want to talk to me."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

7) You and three other students completed a group science project. Your teacher did not think it was very good and gave your group a poor grade. You think, "If I hadn't done such a lousy job, we would have gotten a good grade."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

8) Whenever it is someone's birthday in your class, the teacher lets that student have a half hour of free time to play a game with another student. Last week it was one of your friend's birthday and they picked someone else. Now another of your friends is going to get to choose someone. You think, "They probably won't pick me either."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

9) Your softball team is having practice. The coach tells you he would like to talk to you after practice. You think, "He's not happy with how I'm doing and doesn't want me on the team anymore."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

10) You went to a party with one of your friends. When you first got there your friend hung around with some other kids instead of you. Later you and your friend decide to stop at his/her house for a snack before you go home. Later that night you think, "My friend didn't seem to want to hang around with me tonight."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

11) You forgot to do your spelling homework. Your teacher tells the class to hand them in. You think, "The teacher is going to think I don't care and I won't pass."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

12) You were having a good day in school up until the last period when you had a math quiz. You did poorly on the quiz. You think, "School is a drag, what a waste of time."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

13) You play basketball and score 5 baskets but missed two real easy shots. After the game you think, "I played poorly."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

14) Last week you had a history test and forgot some of the things you had read. Today you are having a math test and the teacher is passing out the test. You think, "I'll probably forget what I studied just like last week."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

15) You spent the day at your friend's house. The last hour before leaving you were really bored. You think, "Today was no fun."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

16) You are taking skiing lessons. The instructor tells the class that he does not think people are ready for the steep trails yet. You think, "If I could only learn to ski faster, I wouldn't be holding everyone up."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

17) Your class is starting a new unit in math. The last one was really hard. When it's time for math class you think, "That last stuff was so hard I just know I'm going to have trouble with this too."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

18) You just started a part-time job helping one of your neighbors. Twice this week you were not able to go skating with your friends because of having to work. As you see your friends leaving to go skating, you think, "Pretty soon they won't ever want to do anything with me."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

19) Last week one of the kids in your class had a party and you weren't invited. This past week you heard another student in your class telling someone he was thinking of getting some kids together to go to a movie. You think, "It'll be just like last week, I won't be asked to go."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

20) You did an extra credit assignment. Your teacher tells you that he would like to talk to you about it. You think, "He thinks I did a lousy job on my assignment and is going to give me a bad grade."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

21) You're with two of your friends. You ask if they would like to go to a movie this week-end. They both say they can't. You think, "They probably just don't want to go with me."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

22) Your cousin calls you to ask if you'd like to go on a long bike ride. You think, "I probably won't be able to keep up and people will make fun of me."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

23) Your team has just lost in a spelling contest. You were the last one up for your team and had spelled four words right. The last word was "excellent" and you got it wrong. When you sit down you think, "I'm no good at spelling."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

24) Last week you played softball and struck out twice. Today some kids from your class ask you to play soccer. You think, "There's no sense playing. I'm no good at sports."

This thought is:

almost exactly like I would think	a lot like I would think	somewhat like I would think	only a little like I would think	not at all like I would think

Appendix F - Correlations (a) between scores on the SDQ and the CNCEQ

	Emotion Symptom	Conduct Problems	Hyperact vity Score	Peer Problem	Prosoc Behaviou	Total Difficulty Score	Catastr ophising	Person alisation	Selective Abstracti	Overgen ralisation	Total Cognitive Errors
Emotional Symptoms											
Conduct Problems	0.034										
Hyperactivity Score	0.238	0.476									
Peer Problems	0.061	-0.160	-0.082								
Prosocial Behaviour	0.119	-0.334	-0.101	-0.066							
Total Difficulties	0.477	0.435	0.695	0.174	-0.160						
Catast rophising	0.185	0.062	0.216	-0.021	0.049	0.259					
Person alisation	.049	-0.149	-0.149	-0.057	-0.007	-0.146	-0.022	0.478			
Selective Abstraction	0.018	-0.065	-0.085	-0.136	0.058	0.058	-0.022	0.461	.486		
Overge neralisation	0.149	-0.286	-0.070	-0.161	0.167	-0.126	0.360	0.531	0.496		
Total Errors	0.096	-0.105	-0.051	-0.045	-0.040	0.033	0.615	0.762	0.737	0.595	

** **Correlation is significant at the .01 level (2-tailed).**
* **Correlation is significant at the .05 level (2-tailed).**
a. Kendall's tau

	Emoti Sympm	Condut Problems	Hyperat vity Score	Peer Problem	Proso Behav	Total Difficu Score	Separat Anxiety	Specifi Phobia	Social Phobia	Panic/ Agora phobia
Conduct Problems	0.034									
Hyperactivity Score	0.238	0.476**								
Peer Problems	0.061	-0.160	-0.082							
Prosocial Behaviour	0.119	-0.334*	10.101	-0.066						
Total Difficulties	0.477	0.435**	0.695**	0.174	-0.160					
Separation Anxiety	0.000	0.099	0.255	-0.028	-0.235	0.117				
Specific Phobia	-0.496	0.143	-0.277	-0.056	-0.227	-0.343	0.279			
Social Phobia	-0.575	-0.155	-0.511*	0.042	-0.140	-0.531**	-0.015	0.608**		
Panic/ Agoraphob	-0.406	0.143	-0.181	-0.056	-0.335	-0.219	0.279	0.608**	0.608**	
PTSD	-0.223	-0.137	-0.053	-0.0264	0.267	-0.189	0.061	0.404	0.404	0.081
OCD	-	-	-	-	-	-	-	-	-	-
Generalise Anxiety	-0.045	-0.121	0.032	0.130	-0.335	0.062	0.279	0.216	0.216	0.608**
Irritability	-0.045	0.044	0.032	-0.213	0	-0.010	-0.015	0.216	0.216	0.608**
Loss of Interest	-0.060	-0.315	-0.276	-0.021	0.135	-0.214	-0.367	0.140	0.490*	0.140
Deliberate Self Harm	-0.316	-0.309	-0.341	-0.071	0.054	-0.364	-0.308	0.216	0.608**	0.216
Depression	-0.430	-0.328	-0.456*	0.042	0.051	-0.396*	-0.245	0.327	0.793**	0.327
AD/HD	-0.084	-0.704	-0.207	0.286	0.073	-0.047	-0.099	-0.015	-0.015	-.308
Troublesome Behav	-	-	-	-	-	-	--	--	--	--
Trouble with Police	-	-	-	-	-	-	--	--	--	-
LessComm Problems	-0.384	0.143	-0.266	-0.213	-0.357	-0.281	-0.308	0.216	0.216	0.216

** **Correlation is significant at the .01 level (2-tailed).**
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a. **Kendall's tau**

	PTSD	OCD	Gen Anxiety	Irritability	Loss of interest	Deliberate Self harm	Depression	AD/HD	Troublesome Behav	Trouble with Police
Conduct Problems										
Hyperactivity Score										
Peer Problems										
Prosocial Behaviour										
Total Difficulties										
Separation Anxiety										
Specific Phobia										
Social Phobia										
Panic/ Agoraphob										
PTSD										
OCD	-									
Generalise Anxiety	0.081	-								
Irritability	0.404	-	0.608**							
Loss of Interest	0.577*	-	0.140	0.490*						
Deliberate Self Harm	0.404	-	0.216	0.216	0.490*					
Depression	0.577*	-	0.327	0.327	0.667**	0.793**				
AD/HD	0.061	-	-0.308	-0.308	0.157	0.015	0.105			
Troublesome Behav	-	-	-	-	-	-	-	-		
Trouble with Police	-	-	-	-	-	-	-	-	-	
LessComm Problems	0.081	-	0.216	0.216	0.140	0.216	0.216	-0.015	-	-

** **Correlation is significant at the .01 level (2-tailed).**

* **Correlation is significant at the .05 level (2-tailed).**

a. **Kendall's tau**

	Catastrophising	Personalisation	Selective Abstract	Overgen	Total Cognitive Errors	Separation Anxiety	Specific Phobia	Social Phobia	Panic/ Agoraphobia
Personalisation	0.478**								
Selective Abstractio	0.461**	0.486**							
Overgeneralisatio	0.360*	0.531**	0.496**						
Total Errors	0.615**	0.762**	0.737**	0.595**					
Separation Anxiety	-0.066	-0.119	-0.235	-0.235	-0.225				
Specific Phobia	0.216	-0.159	-0.178	-0.184	-0.228	0.279			
Social Phobia	0.216	-0.127	-0.052	-0.097	-0.187	-0.015	0.608**		
Panic/ Agoraphobia	0.216	-0.011	-0.052	-0.162	-0.093	-0.279	0.608**	0.608	
PTSD	0.081	-0.349	-0.259	-0.187	-0.368	0-061	0.404	0.404	0.081
OCD	-	-	-	-	-	-	-	-	-
Generalise Anxiety	0.216	0.100	0.063	-0.032	0.052	0.279	0.216	0.216	0.608**
Irritability	0.216	0.021	-0.010	-0.119	-0.021	-0.015	0.216	0.216	0.608**
Loss of Interest	0.140	-0.057	-0.121	-0.077	-0.158	-0.367	0.140	0.490*	0.140
Deliberate Self Harm	0.216	0.169	0.335	0-173	0.176	-0.308	0.216	0.608**	0.216
Depression	-0.145	0.000	0.174	0.077	-0.012	-0.245	0.327	0.793**	0.327
AD/HD	-0.298	-0.151	-0.227	-0.089	-0.249	-0.099	-0.015	-0.015	-0.308
Troublesome Behav	-	-	-	-	-	-	-	-	-
Trouble with Police	-	-	-	-	-	-	-	-	-
LessComm Problems	-0.033	0.286	0.178	-0.119	0.218	-0.308	0.216	0.216	0.216

** Correlation is significant at the .01 level (2-tailed).
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a. Kendall's tau

	PTSD	OCD	Gen Anxiety	Irritability	Deliberate Self harm	Depression	AD/HD	Troublesome Behav	Trouble with Police
Catastrophising									
Personalisation									
Selective Abstractio									
Overgeneralisatio									
Total Errors									
Separation Anxiety									
Specific Phobia									
Social Phobia									
Panic/ Agoraphob									
PTSD									
OCD	-								
Generalise Anxiety	0.081	-							
Irritability	0.404	-	0.608**						
Deliberate Self Harm	0.577*	-	0.140	0.216					
Depression	0.404	-	0.216	0.327	0.793**				
AD/HD	0.061	-	-0.308	-0.308	-0.015	0.105			
Troublesome Beha	-	-	-	-	-	-	-		
Trouble with Police	-	-	-	-	-	-	-	-	
LessComm Problems	0.081	-	0.216	0.216	0.176	0.327	-0.015	-	-

** Correlation is significant at the .01 level (2-tailed).
* Correlation is significant at the .05 level (2-tailed).

a. Kendall's tau